

**K. O. LEE COMPANY**

ABERDEEN, SOUTH DAKOTA



*K. O. Lee*

**AUTOMOTIVE  
TOOLS AND  
EQUIPMENT**

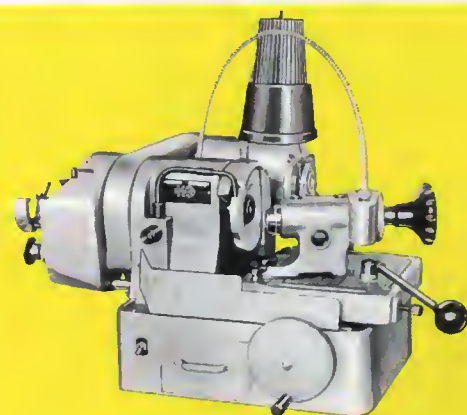


*K. O. Lee***LIFETIME****VALVE REFACERS***Only Lee 'LIFETIME'  
Valve Refacers Offer*

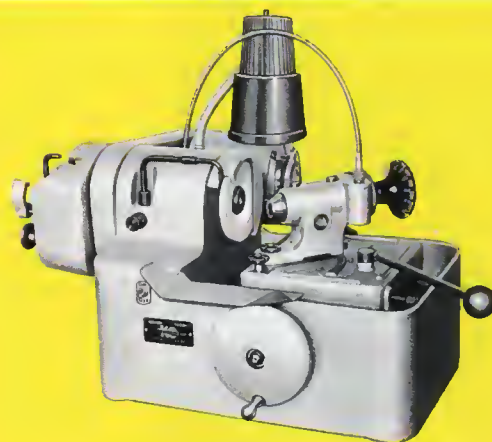
- ★ Industrial grinding machine construction and accuracy.
- ★ V-way table construction — found only on precision grinding machines.
- ★ Positive valve face angle locating — perfect angle face assured.
- ★ Worm-drive valve chuck workhead provides continuous power transmission.
- ★ Specially designed removable (drawer type) coolant tank — designed to assure residue free coolant back to point of grind.
- ★ Valve head chuck warranted accuracy less than .001" total indicator reading for run-out.
- ★ Right hand operation designed machines.

*and*

The only valve refacers offering all automatic pre-load compensation for wear. No mechanical adjustments necessary, or expensive service or parts replacement. Machines retain their original fine accuracy throughout years and years of trouble-free service.

*Name Your Own Warrantee!*

**K403CM STANDARD MODEL**  
GOVERNMENT FEDERAL STOCK NUMBER  
FSN 4910-540-4679  
Complys with Fed. Spec. 00-G-686a



**K500HM HEAVY DUTY MODEL**

**K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA**



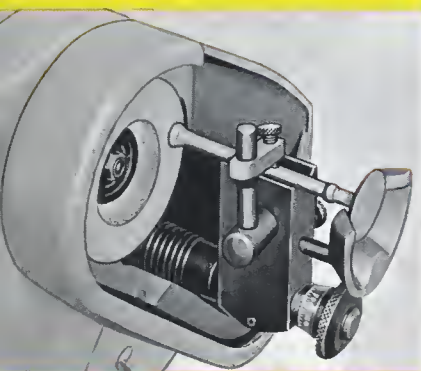
# K. O. LEE "LIFETIME" STANDARD SERIES VALVE REFACERS



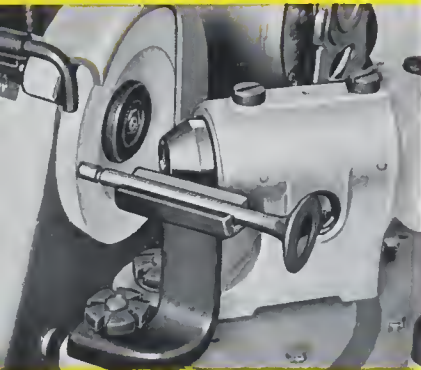
Rocker Arm Attachment



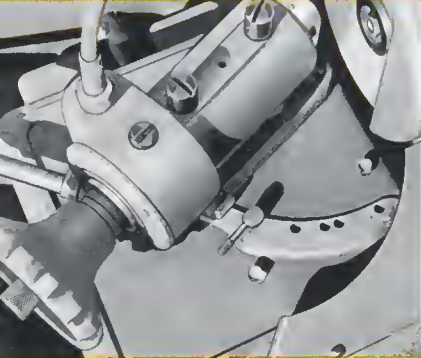
Wheel Dresser



Butt Grinding Attachment

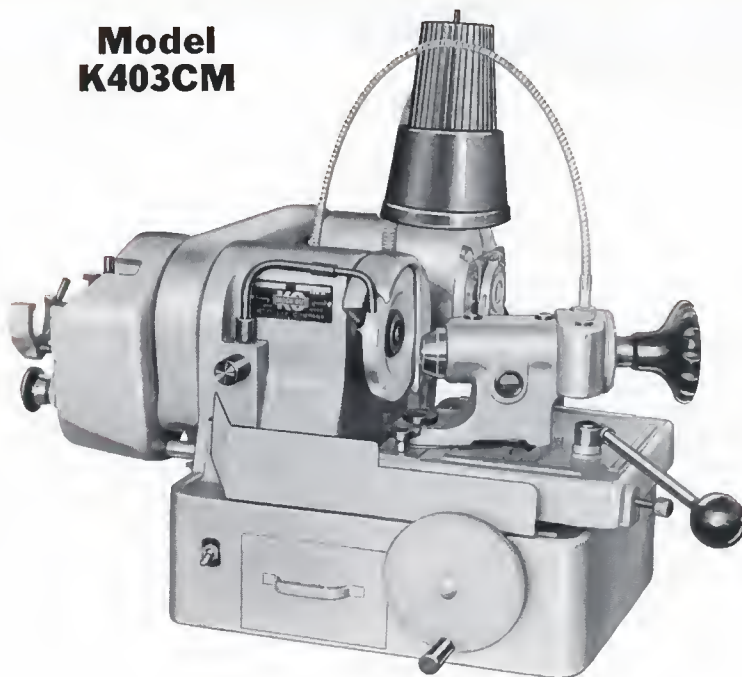


V-Rest for Butt Grinding  
On Machines without Butt Grinder



Positive Stop Angle Settings

**Model  
K403CM**



*If valves with large diameter heads are to be ground,  
we recommend 1/2 H.P. Model K403H or K403HM.*

The Lee Standard refacer does an exceptionally fine job of grinding valves, providing a super finish seldom equaled by more expensive machines, yet is priced far lower than competitive makes!

This refacer incorporates all of the basic principles of the Lee heavy duty machine and will do equally good grinding. Grinding wheel head is set at an angle to the table ways, thus enabling all valves to be ground with traverse feed. This is an original engineering feature of the Lee Company. Feed screw has V-type thread.

Flexible shaft drive on work head assures chatter-free grind on valve face.

One motor. Simplicity of design, with one motor driving grinding wheel, coolant pump and work head. Induction type motor with no brushes for years of trouble free, low cost service.

This machine is built to quality standards, including V-ways, hardened and ground spindles, collet chucks, precision bearings grease sealed for life, convenient coolant tank, and many other built in features found in no other refacer—regardless of price, provide a LIFETIME machine that will continue to accurately grind valves with super finish year after year. Name your own warrantee!

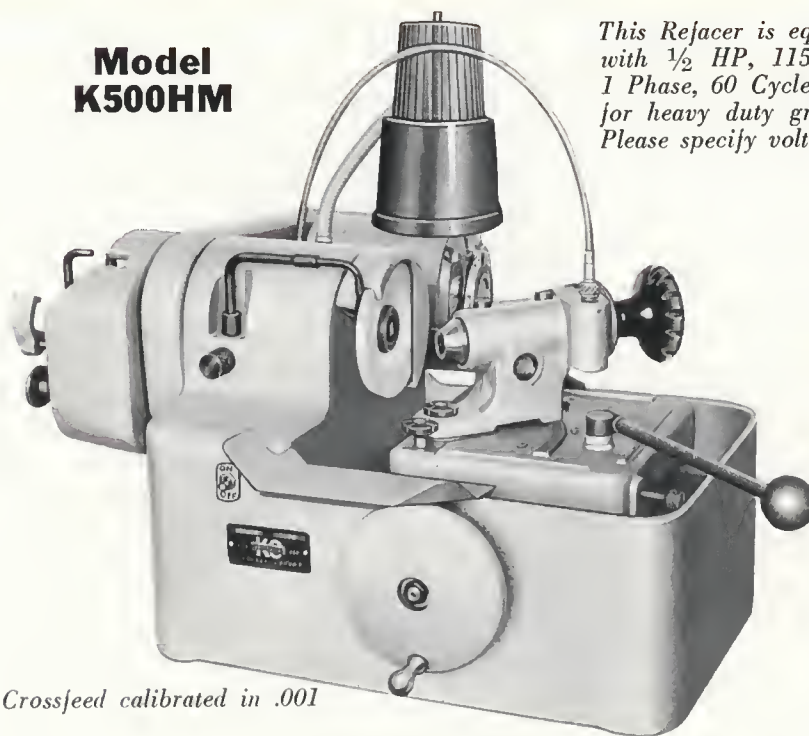
*Specifications listed on back page.*

# K. O. LEE "LIFETIME"

## DELUXE HEAVY DUTY SERIES

### VALVE REFACERS

#### Model K500HM



*Crossfeed calibrated in .001*

*This Refacer is equipped with 1/2 HP, 115/230V, 1 Phase, 60 Cycle Motor for heavy duty grinding. Please specify voltage.*

The rugged, impressive appearance of this machine will command the respect of every mechanic. Built for continuous service with features offered only by Lee, it will condition valves, valve lifters, and rocker arms for cars, trucks, tractors and aircraft, marine and stock engines.

The Lee refacer is simple and convenient to operate. The table traverse arm is right-handed and adjusts to any convenient working position by merely turning knob and retightening. A knurled stop screw limits table travel and prevents accidental spindle nose damage.

One gallon tank with long coolant travel through adequate baffle plates to assure clean coolant.

One large capacity valve to feed coolant to either grinding wheel.

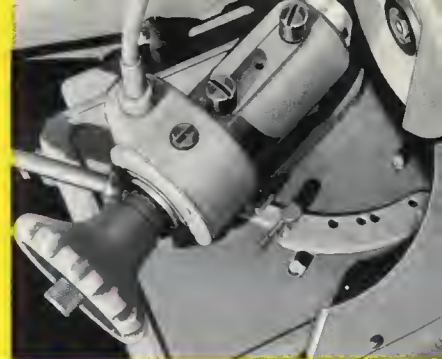
Flexible shaft drive on work head assures chatter-free grind on valve face.

Fork and feed nut are spring loaded to eliminate backlash. Feed screw has National Acme Thread.

One motor. Simplicity of design, with one motor driving grinding wheel, coolant pump and work head. Induction type motor with no brushes for years of trouble free, low cost service.

This Heavy Duty Refacer is built with machine tool precision, reflecting K. O. Lee's years of machine tool building experience. Compare this machine, feature for feature, for accuracy and for refacing results with any refacer at any price. It has automatic compensation for wear, retaining original unsurpassed precision accuracy for a Lifetime of trouble free service.

*Specifications listed on back page*



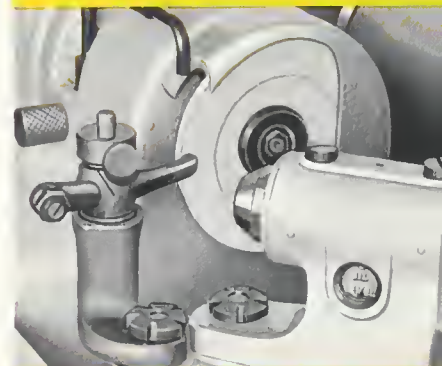
**Positive Stop Angle Settings**



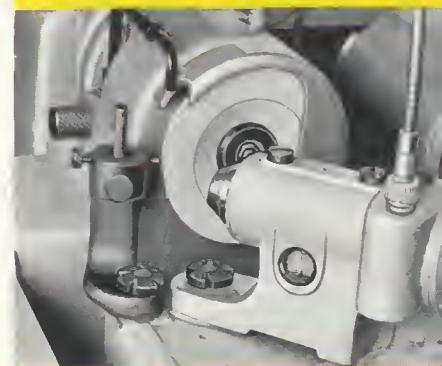
**Sturdy Construction**



**Convenient Coolant Tank**



**Rocker Arm Attachment**



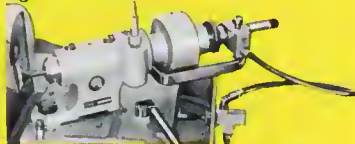
**Wheel Dresser**





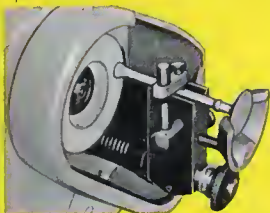
**K541 Air Chuck**  
HAND OPERATED

Straight through design with adjustable plunger for valve stem stop. Plunger can be removed and any length valve ground. Not necessary to remove chuck for over length valves. K541 fits all K. O. Lee Refacers. Grips or releases valve instantly. Assures high speed accurate alignment for production valve refacing. Price \$59.50.



**K541M Automatic Air Chuck**  
K500 SERIES ONLY

Air Switch is operated by the table at end of travel. Not necessary to remove hand from operating lever. Valves can be instantly changed. To install on K500's in the field, it is necessary to drill a  $\frac{1}{4}$ " hole through the base. Template furnished. Price \$69.50.



**Micrometer Butt Grinding Attachment**

Micrometer Butt Grinding Attachment includes depth gauge, a micrometer feed calibrated in .001", wheel guard, butt grinding wheel.

All model refacers are machined for simple adaption. State model number of machine when ordering as separate unit. K436C Attachment is for the K403C, D, and H Series, K536 Attachment is for K500 Series.



**Model K675WC Valve Wagon**

Heavy steel top makes sturdy mounting for valve refacer or tools. Twelve square feet of storage area protected by double swinging doors with 3-point locking device. Back and end stops, 2" high, are integral part of top which may be inverted and reversed to eliminate end stops. Center shelf adjustable on  $\frac{1}{2}$ " centers. Built in lock. Size 36" wide, 24" deep, 34" high. Wt. 130 lbs.

**MODEL K675P VALVE WAGON**

Same as K675WC except without castors. Wt. 125 lbs.

# K. O. LEE "LIFETIME" VALVE REFACERS

## Specifications

Apply To Standard and Deluxe Heavy Duty Models

### VALVE STEM CAPACITY

#### RANGE AND LENGTH OF COLLET

$\frac{3}{32}$ " to  $\frac{1}{8}$ " x 3" long with K43D collet (standard equipment)  
 $\frac{3}{32}$ " to  $\frac{1}{32}$ " x 2 $\frac{1}{4}$ " long with K43CL collet (extra equipment)  
 K43CL Collet used to service Falcon, Comet, Corvair and Oldsmobile F85 valves  
 $\frac{3}{16}$ " to  $\frac{5}{16}$ " x 1 $\frac{3}{4}$ " long with K43CS collet (extra equipment)  
 $\frac{1}{4}$ " to  $\frac{3}{8}$ " x 1 $\frac{3}{4}$ " long with K43C collet (extra equipment)  
 $\frac{1}{2}$ " to  $\frac{1}{8}$ " x 3" long with K43E collet (extra equipment)

### VALVE HEAD CAPACITY

Valve heads up to 4" (within valve stem range)

### VALVE FACE ANGLES

Zero to 90 degrees with minus one degree setting and positive stop

### WEIGHT

Standard Model, Net Wt. 128 pounds, Shipping Wt. 152 pounds  
 Deluxe Heavy Duty Model, Net Wt. 162 pounds, Shipping Wt. 205 pounds

### STANDARD EQUIPMENT

K43D Double-end collet, ( $\frac{3}{32}$ " to  $\frac{1}{8}$ " valve stem diameters)  
 K532A Coolant Pump  
 K534 Diamond Holder P176D Diamond Screw in Holder  
 K436V V-Rest (only on machines without Butt Grinder)  
 K450 Rocker Arm Grinding Attachment, cone type  
 OV5GH80S 5" x  $\frac{1}{2}$ " x  $\frac{3}{8}$ " offset grinding wheel  
 2679 Pint Can Lee Concentrate

### AVAILABLE EXTRA EQUIPMENT

K436C Micrometer Butt Grinding Attachment (K403C Series)  
 K536 Micrometer Butt Grinding Attachment (K500C Series)  
 OV5GH80W 5" x  $\frac{1}{2}$ " x  $\frac{3}{8}$ " offset grinding wheel  
 K37 Sharpening Fixture for Reseater Cutters  
 K43CL Double-end collet ( $\frac{3}{32}$ " to  $\frac{1}{32}$ " valve stems) with K43PL spacer sleeve  
 K43C Double-end collet ( $\frac{1}{4}$ " to  $\frac{3}{8}$ " valve stems) with K43P spacer sleeve  
 K43CS Double-end collet ( $\frac{3}{16}$ " to  $\frac{5}{16}$ " valve stems) with K43P spacer sleeve  
 K43E Double-end collet ( $\frac{1}{2}$ " to  $\frac{1}{8}$ " valve stems)  
 K541 Air Chuck \$59.50  
 K675P Valve Wagon without castors  
 K675WC Valve Wagon with castors  
 K443HL Special workhead. Range  $\frac{3}{8}$ " to  $\frac{3}{4}$ " stems, with straight through double-end ball collet \$190.00  
 2639 Worm Gear Lubricant. Quart can \$1.80  
 2699 Honing oil for valve refacers. Gallon can \$2.40  
 KVVU1900 Plastic Cover

## Models Available - Order By Stock Numbers

MODELS AVAILABLE	MOTOR 1/3 HP, 115V 1 Ph., 60 Cy. AC	MOTOR 1/3 HP, 230V 1 Ph., 60 Cy. AC	MOTOR 1/2 H.P., 115/230V, 1 Ph., 60 Cy., AC. Please specify voltage. Motors are dual voltage and can be changed in the field. Instructions on Motor.
Standard Series Without Micrometer Butt Grinding Attachment	K403C	K403D	K403H
Standard Series With Micrometer Butt Grinding Attachment	K403CM	K403DM	K403HM
Deluxe Series Without Micrometer Butt Grinding Attachment			K500H
Deluxe Series With Micrometer Butt Grinding Attachment			K500HM

# VALVE SEAT GRINDER

July 1, 1965

WEATHERLY INDEX

850

Designed to give years of trouble-free service. Pilots are hardened and ground. Driver incorporates a powerful ball bearing type universal motor. Wheel dresser has positive stops for accurate dressing of wheel. Pilot wrench is of patented construction enabling quick insertion and release of pilot in guide. Wheel holders have hardened and ground bushings, ball bearing type have dust sealed bearings.

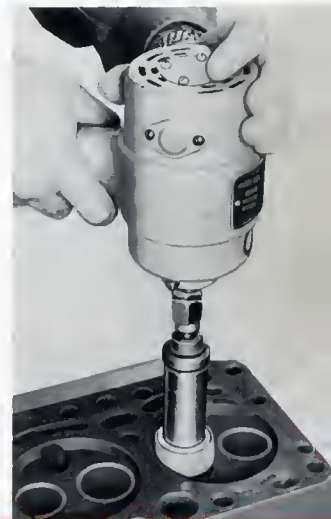


## NO BIG INVESTMENT IN PILOTS

Each pilot ranges from  $-.003$  to  $+.007$  of basic range stamped on pilot. One pilot does the work of several solid type pilots.

## Model P302BB

Silver Gray Hammerloid Finish box is of heavy gauge steel construction and has individual storage for all pilots available. Space is provided for storage of additional attachments and angle drive.



## MODEL P302BB UNIVERSAL BALL BEARING VALVE SEAT GRINDER

DESIGNED TO SERVICE MOST CARS, TRUCKS, AND TRACTORS

Consists of the following equipment:

One P61	Pilot Wrench	One P235	1-1/2"	General Purpose Grinding Wheel
One P83	5/16" Self Expanding Pilot	One P235F	1-1/2"	Finishing Grinding Wheel
One P84	11/32" Self Expanding Pilot	One P235R	1-1/2"	Roughing Grinding Wheel
One P84L	11/32" Self Expanding Pilot (6 1/2" Length)	One P237	1-5/8"	General Purpose Grinding Wheel
One P85	3/8" Self Expanding Pilot	One P237F	1-5/8"	Finishing Grinding Wheel
One P97R	.394" Self Expanding Pilot (Oldsmobile Rocket)	One P237R	1-5/8"	Roughing Grinding Wheel
One P97	13/32" Self Expanding Pilot	One P239	1-3/4"	General Purpose Grinding Wheel
One P86	7/16" Self Expanding Pilot	One P239F	1-3/4"	Finishing Grinding Wheel
One P87	1/2" Self Expanding Pilot	One P239R	1-3/4"	Roughing Grinding Wheel
One P88	9/16" Self Expanding Pilot	One P241	1-7/8"	General Purpose Grinding Wheel
One P372	Wheel Dresser with No. P176D Diamond Screw	One P241F	1-7/8"	Finishing Grinding Wheel
One P189	Tube Brush for cleaning Holder	One P241R	1-7/8"	Roughing Grinding Wheel
One P196X	Ball Bearing Grinding Wheel Holder (11/16" Threaded End)	One P243	2"	General Purpose Grinding Wheel
One P198X	Ball Bearing Grinding Wheel Holder (9/16" Threaded End)	One P247	2-1/4"	General Purpose Grinding Wheel
One P190B	Adapter Bushing (9/16" to 11/16").....No Charge	One P251	2-1/2"	General Purpose Grinding Wheel
One P522	Utility Driver with Safety Button Switch and 10 ft. 3 conductor cable with plug (3rd wire for ground), 110 volt AC-DC	One P500B	Handy Tool Chest (10" high x 14-3/16" wide x 10-3/4" deep—Weight 21 lbs.)	
One P223	Hexagonal Ball Terminal for 15/32" shaft			

Net Shipping Weight 45 lbs.

With the substitution of P190 for the P196X and the P191 for the P198X, the P302BB set becomes the P302 set.

**K. O. LEE COMPANY, ABERDEEN, SO. DAKOTA**



# "K. O. Lee" VALVE SEAT GRINDERS

## Model P300 Basic Valve Seat Grinder

Designed to service only those cars, trucks, and tractors the purchaser desires. In addition to the items listed below, the operator must select those stones, pilots, and other accessories necessary to service selected motors. Shipping Weight 39 lbs.

- One P61 Pilot Wrench
- One P372 Wheel Dresser with No. P176D Diamond Screw
- One P189 Tube Brush for cleaning Holder
- One P190 Grinding Wheel Holder (11/16" Threaded End)
- One P522 Utility Driver with Safety Button Switch, 110V
- One P223 Hexagonal Ball Terminal for 15/32" Shaft
- One P500B Box (10" high x 14-3/16" wide x 10-3/4" deep)

With substitution of P196X for P190, set becomes P300BB ball brg. set.

## Model P301 Junior Valve Seat Grinder

Designed to service most makes of cars, small trucks, and tractors. Additional grinding wheels, pilots and other accessories may be purchased when needed. Shipping Weight 41 lbs.

- One P61 Pilot Wrench
- One P83 5/16" Self Expanding Pilot
- One P84 11/32" Self Expanding Pilot
- One P85 3/8" Self Expanding Pilot
- One P97R Self Expanding Pilot (Oldsmobile Rocket)
- One P372 Wheel Dresser with No. P176D Diamond Screw
- One P189 Tube Brush for cleaning Holder
- One P190 Grinding Wheel Holder (11/16" Threaded End)
- One P522 Utility Driver with Safety Button Switch, 110V
- One P223 Hexagonal Ball Terminal for 15/32" Shaft

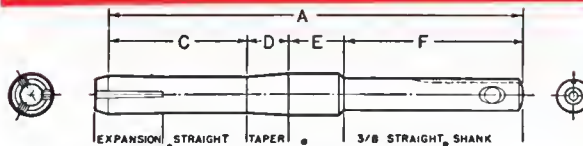
One each of the following Grinding Wheels:

- P235 1-1/2", P237 1-5/8", P239 1-3/4" General Purpose
- P235F 1-1/2", P237F 1-5/8", P239F 1-3/4" Finishing
- P235R 1-1/2", P237R 1-5/8", P239R 1-3/4" Roughing

- One P500B Box (10" high x 14-3/16" wide x 10-3/4" deep)

With substitution of P196X for P190, set becomes P301BB ball brg. set.

## SELF EXPANDING PILOTS



The Simplest, Most Accurate Pilot Made!

All advantages of a solid one-piece taper pilot plus the accuracy and rigidity assured by the expansion of the lower end are contained in a K-O Pilot. The true center of a worn guide is found and as a result the valve seat is reconditioned concentric with the actual operating line of movement of the valve stem.

The taper that contacts the upper part of the guide is slight. The pilot anchors deep down in the guide where proper bearing is obtained.

Part No.	Pilot Size	A	C	D	E	F
P95	1/4	5 1/2	1 3/2	3/4		3 3/4
P95S	1/4	4 1/2	1 3/2	3/4		3
P95L	1/4	6 1/2	1 3/2	3/4		4 3/4
P96	5/16	5 1/2	1 3/2	3/4		3
P96S	5/16	4 1/2	1 3/2	3/4		3
P96L	5/16	6 1/2	1 3/2	3/4		4 3/4
P83	3/8	5 1/4	1 3/4	3/4		2 3/4
P83R	3/8 + .015	5 1/4	1 3/4	3/4		2 3/4
P83RL	3/8 + .015	6 1/4	1 3/4	3/4	1/2	3 1/4
P83S	3/8	4 3/4	1 3/4	3/4		2 3/4
P83L	3/8	6 3/4	1 3/4	3/4	1/2	3 1/4
P84	1/2	5 1/4	1 3/4	3/4		2 3/4
P84S	1/2	4 1/2	1 3/4	3/4		2 3/4
P84M	1/2	4 1/2	1 3/4	3/4		1 3/4
P84L	1/2	6 1/4	1 3/4	3/4		3 3/4
P84R	1/2 + .015	5 1/4	1 3/4	3/4		2 3/4
P84RL	1/2 + .015	6 1/4	1 3/4	3/4		3 3/4
P85F	.370	5 3/4	2	3/4		3
P85	3/8	5 3/4	2	3/4		3
P85R	3/8 + .015	5 3/4	2	3/4		3
P85RL	3/8 + .015	7 1/4	2 1/4	3/4	1	3 3/4
P85S	3/8	4 1/2	1 3/4	3/4		2 3/4
P85L	3/8	7 1/4	2 1/4	3/4	1	3 3/4
P97R	.397	5 3/8	1 1/8	3/4		3 1/4
P97	1/2	6	2 1/4	3/4		3
P97L	1/2	8 1/4	2 1/4	3/4	1 1/2	3 3/4
P86	3/4	6 1/4	2 1/2	3/4		3
P86M	3/4	7 1/2	2 1/2	3/4	1	3 1/4
P86RM	3/4 + .015	7 1/2	2 1/2	3/4	1	3 1/4
P86L	3/4	8 1/2	2 1/2	1 1/8	1 3/8	3 3/4
P86S	3/4	5 1/4	1 3/8	3/4		3
P94M	1/2	7 1/2	2 1/2	3/4	1	3 1/4
P87	1/2	6 1/4	2 1/2	3/4		3
P87L	1/2	8 1/8	2 1/2	1 3/8	1	3 3/4
P87M	1/2	7 1/8	2 1/2	1 3/8		3 3/4
P93	1/2	6 3/4	2 1/2	3/4		3 1/2
P88	3/8	6 1/4	2 1/2	3/4		3
P88M	3/8	7 1/8	2 1/2	1 3/8		3 3/4
P88L	3/8	8	2 1/2	1 3/8	3/8	3 1/4
P92	1/2	5 1/4	1	3/8	3/4	3
P89	3/8	6 1/4	2 1/2	3/4		3
P98	1/4	6 1/4	2 1/2	3/4		3
P98L	1/4	8 3/8	2 1/2	1 3/8	1	3 1/2
P99	3/4	6 3/4	2 1/2	1		3 1/4
P91L	1 1/2	4 3/4	3/4	1/2		3 3/4
P8236	6MM	4 3/8	1 3/8	3/8		2 3/4
P8236S	6MM	4 1/2	1 3/8	3/8		2 3/4
P8255	6 1/2MM	4 3/8	1 3/8	3/8		2 3/4
P8275	7MM	4 3/8	1 3/8	3/8		2 3/4
P8295	7 1/2MM	5 3/8	1 3/8	3/8		2 3/4
P8315	8MM	5 3/8	1 3/8	3/8		2 3/4
P8334	8 1/2MM	5 3/8	1 3/8	3/8		2 3/4
P8354	9MM	5 3/8	1 3/8	3/8		2 3/4
P8374	9 1/2MM	5 3/8	1 3/8	3/8		3
P8393	10MM	5 3/8	1 3/8	3/8		3
P8472	12MM	6 1/4	2 1/2	3/4		3
P8820	.820	4 3/4	3/4	1/2		3 1/2

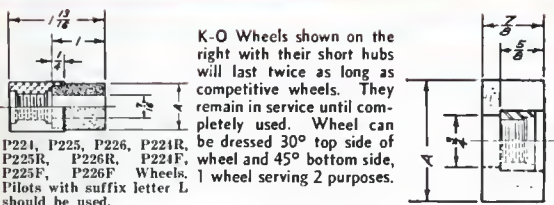
P90 .850" Special Pilot for Ford V-8 60.

P91 1-1/32"x1" Special Pilot for Ford V-8 for use when lifters are removed from engine.

Each pilot ranges from -.003" to +.007" of basic range stamped on pilot. One pilot does the work of several solid type pilots.

P61 Pilot Wrench must be used with above Wheel Holders.

## VALVE SEAT GRINDING WHEELS



K-O Wheels shown on the right with their short hubs will last twice as long as competitive wheels. They remain in service until completely used. Wheel can be dressed 30° top side of wheel and 45° bottom side, 1 wheel serving 2 purposes.

GENERAL PURPOSE	FINISHING WHEELS	ROUGHING WHEELS	A-DIAM.	GENERAL PURPOSE	FINISHING WHEELS	ROUGHING WHEELS	A-DIAM.
P224	P224F	P224R	1/4"	P238	P238F	P238R	1 1/8"
P225	P225F	P225R	1/2"	P239	P239F	P239R	1 3/4"
P226	P226F	P226R	1"	P240	P240F	P240R	1 1/2"
P227	P227F	P227R	1 1/4"	P241	P241F	P241R	1 1/2"
P228	P228F	P228R	1 1/2"	P242	P242F	P242R	1 3/4"
P229	P229F	P229R	1 3/4"	P243	P243F	P243R	2"
P231	P231F	P231R	1 1/2"	P245	P245F	P245R	2 1/2"
P232	P232F	P232R	1 3/4"	P247	P247F	P247R	2 1/4"
P233	P233F	P233R	1 3/4"	P251	P251F	P251R	2 1/2"
P234	P234F	P234R	1 3/4"	P255	P255F	P255R	2 3/4"
P235	P235F	P235R	1 1/2"	P259	P259F	P259R	3"
P236	P236F	P236R	1 3/4"	P261	P261F	P261R	3 1/4"
P237	P237F	P237R	1 3/4"	P263	P263F	P263R	3 1/2"

### GRINDING WHEELS FOR STELLITE

No.	A-Diam.	No.	A-Diam.	No.	A-Diam.	No.	A-Diam.
P2355	1 1/2"	P2415	1 1/4"	P2475	2 1/2"	P2595	3"
P2375	1 3/4"	P2435	2"	P2515	2 1/2"		
P2395	1 3/4"	P2455	2 1/4"	P2555	2 3/4"		

\*Wheels have 1/16"—16thd. All other K-O Wheels have 1/8"—16thd. Sioux, Skil, Thor, U. S. Electric Tool also have 1/16"—16thd. K-O Wheels with 1/8" S.A.E. threads can be used on 1/8" threaded end K. O. Lee holders and those made by other manufacturers such as Black and Decker, by using a No. P190B Bushing (1/8" to 1/16"). This bushing is furnished no charge to purchasers of K-O Wheels. Wheels P224, P225, P226, P227, P228, P229 are designed for small engine service.

### GENERAL PURPOSE

### Grinding Wheels For Kwik-Way

WHEELS HAVE 12/16"—13 THREAD

No.	A-Diam.	No.	A-Diam.	No.	A-Diam.	No.	A-Diam.
P236K	1 1/4"	P241K	1 1/2"	P247K	2 1/4"	P259K	3"
P237K	1 3/4"	P243K	2"	P251K	2 1/2"	P261K	3 1/4"
P239K	1 3/4"	P245K	2 1/4"	P255K	2 3/4"	P263K	3 1/2"

# THE TOOL WITH 101 USES



# VALVE SEAT GRINDER ACCESSORIES

## "K. O. Lee" UTILITY DRIVER

P522 1/3 H.P. UTILITY DRIVER with safety button switch and 10 ft. 3-conductor cable, 115V and 230V motors available — specify voltage.

P322 32V 1/4 H.P. UTILITY DRIVER available.



**GROUNDING.** These motors are equipped with a three conductor cord with the ground wire (green covered conductor) connected internally to the motor housing. To give maximum protection connect the plug-in of this green ground wire to a permanent ground or a suitable grounding device.

### "K-O" PILOT WRENCHES

Pilots are instantly placed in or removed from valve guides with this wrench. Easy and simple to operate, the K-O Pilot Wrench is a great time saver to the mechanic.

P61 Standard "K-O" Pilot Wrench.  
P361 Special "K-O" Pilot Wrench for Crosley Engines.



## "K. O. Lee" WHEEL DRESSER

P372 Wheel Dresser

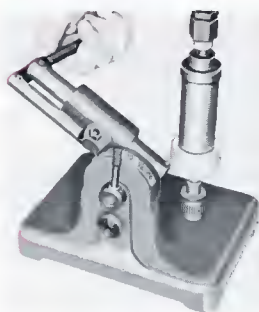
### FEATURES:

- The K-O Wheel Dresser is mounted on non-skid rubber pads which eliminate vibration and hold it firmly to the work bench while wheel is being dressed. It is quick and simple to operate as the plunger and diamond are held by constant friction and require no locks or adjustment for the life of the tool.

- The plunger is protected from abrasive dust by dust seals at both ends.

- The swivel is graduated with positive stops for 0, 15, 30, 45, 60, 75 and 90 degrees.

- Vertical screw adjustment for raising or lowering position of grinding stone, making possible diamond dressing of smallest diameter wheels and any angle requirements.



Dressing Wheel to Desired Diam.

Base Dimensions.....5 1/2" x 7 1/2" Net Weight.....10 1/4 lbs.

## GRINDING WHEEL HOLDERS



1/2" HEX DRIVE  
P190 4" long, 1/2" hex socket, 11/16" threaded end  
P5190 2 3/4" long, 1/2" hex socket, 11/16" threaded end  
(For Kaiser-Frazer, other hard to reach seats)  
P191 4" long, 1/2" hex socket, 9/16" threaded end  
P196X Ball bearing, 4" long, 1/2" hex socket, 11/16" threaded end  
P198X Ball bearing, 4" long, 1/2" hex socket, 9/16" threaded end  
P398 4" long, 7/8" dia., 1/2" hex socket, 9/16" threaded end (for Crosley).

5/8" HEX DRIVE  
P197X Ball bearing, 4" long, 5/8" hex socket, 11/16" threaded end.  
P199X Ball bearing, 4" long, 5/8" hex socket, 9/16" threaded end.  
P390 4" long, 5/8" hex socket, 11/16" threaded end.  
P5390 2 3/4" long, 5/8" hex socket, 11/16" threaded end.  
P391 4" long, 5/8" hex socket, 9/16" threaded end.  
P399 4" long, 7/8" diameter, 5/8" hex socket, 9/16" threaded end (for Crosley).

To obtain exchange price on new wheel holders, a used K. O. Lee wheel holder must accompany order.

## ANGLE DRIVE ATTACHMENT



P360 1/2" Hex Angle Drive Attachment

P362 5/8" Hex Angle Drive Attachment

The K-O Angle Drive Attachments can be used when grinding airplane cylinders and hard-to-get-at seats in automobile motors. Fits all drivers. Over-all length 11"; net weight 14 oz.

### P460 GEARED ANGLE DRIVE — 60°

A rugged angle drive designed especially for close quarters such as the back valve seats on Kaiser, Frazer, Studebaker Trucks, etc. Available in two gear ratios, 1 to 1 for grinding wheels up to 2 1/2 diam., 1 1/2 to 1 for larger grinding wheels. Fits all drivers.



P460 Geared Angle Drive (1 to 1, 1/2" hex drive)  
P461 Geared Angle Drive (1 1/2 to 1, 1/2" hex drive)  
P462 Geared Angle Drive (1 to 1, 5/8" hex drive)  
P463 Geared Angle Drive (1 1/2 to 1, 5/8" hex drive)

## VALVE SEAT INDICATOR

P350 Indicator to Fit 3/8" Pilot

A K-O Valve Seat Indicator will prove a decided advantage to any mechanic. The few seconds used to check a valve seat grinding job may save hours of labor later on. It is sound insurance against "come-backs." The K-O Indicator, having but one adjustment, is simple and easy to operate.



## HEX BALL TERMINALS AND ADAPTER SLEEVES

P223 1/2" Hex Ball Terminal for 15/32" Motor Shaft  
P220 5/8" Hex Ball Terminal for 15/32" Motor Shaft  
P216S Split Adapter Sleeve (15/32" to 5/16")  
P217S Split Adapter Sleeve (15/32" to 3/8")



## CARBON REMOVING WIRE BRUSHES

Must Be Used With P217 Collet Chuck

WB210S Wire Brush (7/8" diameter)  
WB220S Wire Brush (1 1/8" diameter)  
WB210F Wire Brush (1 1/2" diameter—flared)



## VALVE GUIDE REAMERS

### Solid Type



"K. O. Lee" Valve Guide Reamers will ream faster and cleaner and hold size longer making them the most economical in the end.

Number	Size	Number	Size	Number	Size
H1236	6MM	H1334	8 1/2 MM	H1393	10MM
H1250	1/4"	H1343	11/32"	H1397	.397"
H1255	6 1/2 MM	H1353	11/32" + .010	H1406	13/32"
H1275	7MM	H1363	11/32" + .020	H1437	7/16"
H1281	9/32"	H1354	9MM	H1472	12MM
H1295	7 1/2 MM	H1373	3/8" — .002	H1500	1/2"
H1312	5/16"	H1374	9 1/2 MM	H1625	5/8"
H1315	BMM	H1375	3/8"		

# EVERY ACCESSORY THE OPERATOR WANTS



# VALVE SEAT GRINDER ACCESSORIES

## HAND GRINDING ATTACHMENTS



**P280 Hand Grinding Attachment**

- One P278 Flanged Wheel Holder for 15/32" Shaft
- One P217 1 1/4" Collet Chuck for 15/32" Motor Shaft
- One P275C Guard for 2 1/2" Cup Wheel
- One P275E Guard for 4" Plain Wheel
- One P275B Motor Band for holding Guards
- One PR3BH60 3" x 1/8" x 5/8" hole, Plain Wheel
- One PR3DH60 3" x 1/4" x 5/8" hole, Plain Wheel
- One PR3FH60 3" x 3/8" x 5/8" hole, Plain Wheel
- One PR3GH60 3" x 1/2" x 5/8" hole, Plain Wheel
- One CR2 1/2 MH60 2 1/2" x 1 1/4" x 5/8" hole, Cup Wheel
- One P135L 1" x 1" x 1/4" Shank Mounted Wheel
- One P137D 1 1/2" x 1 1/4" x 1/4" Shank Mounted Wheel
- One P137G 1 1/2" x 1 1/2" x 1/4" Shank Mounted Wheel
- One P138L 2" x 1" x 1/4" Shank Mounted Wheel
- One E1 Abrasive Wheel Dresser

### EXTRA WHEELS

- One P136L 1 1/4" x 1" x 1/8" Shank Mounted Wheel
- One P137L 1 1/2" x 1" x 1/4" Shank Mounted Wheel



**P217 Collet Chuck**

1/4" Collet Chuck for 15/32" Motor Shaft for holding mounted wheels, abrasive disk holders.

### ADAPTER SLEEVES

- For use with P217 Collet Chuck, P278 Flanged Wheel Holder, P220 and P223 Hex Ball Terminal and P281 Drum Arbor to old style driver having small shaft diameter.
- P216S Split Adapter Sleeve (15/32" to 5/16")
- P217S Split Adapter Sleeve (15/32" to 3/8")
- P218S Split Adapter Sleeve (1/4" to 1/8") for use on P217 Collet Chuck only

## ABRASIVE DISC ATTACHMENT

**P277 Abrasive Disc Attachment**



- One 416 Abrasive Disc, 4" diameter, No. 16 grit, 1/4" hole
- One 424 Abrasive Disc, 4" diameter, No. 24 grit, 1/4" hole
- One 436 Abrasive Disc, 4" diameter, No. 36 grit, 1/4" hole
- One 460 Abrasive Disc, 4" diameter, No. 60 grit, 1/4" hole
- One 480 Abrasive Disc, 4" diameter, No. 80 grit, 1/4" hole
- One 4100 Abrasive Disc, 4" diameter, No. 100 grit, 1/4" hole
- One 516 Abrasive Disc, 5" diameter, No. 16 grit, 1/4" hole
- One 524 Abrasive Disc, 5" diameter, No. 24 grit, 1/4" hole
- One 536 Abrasive Disc, 5" diameter, No. 36 grit, 1/4" hole
- One 560 Abrasive Disc, 5" diameter, No. 60 grit, 1/4" hole
- One 580 Abrasive Disc, 5" diameter, No. 80 grit, 1/4" hole
- One 5100 Abrasive Disc, 5" diameter, No. 100 grit, 1/4" hole
- One P277C 3 1/4" Fibre Backing for Abrasive Disc
- One P277D 4 1/4" Fibre Backing for Abrasive Disc
- One P277H Abrasive Disc Holder only
- One P277F Flange Washer for 4" x 1/8" Grinding Wheel
- One PS4BH60 4" x 1/8" x 5/8" hole, plain Grinding Wheel

**NOTE:** Both the 3 1/4" and 4 1/4" Fibre Backings should be used to support 5" Discs, whereas only the 3 1/4" Backing is necessary for 4" Discs. When the outer edge of a Disc is worn, it can be trimmed by holding it edgewise against any sharp metal while the Driver is running.

## TOOL POST HOLDER

With the use of a tool post holder listed below, the Driver can be quickly mounted on a lathe for internal and cylindrical grinding.

- P270 Tool Post Holder, 3/8" x 3/4" Shank
- P273 Tool Post Holder, 1/2" x 1" Shank
- P274 Tool Post Holder, 5/8" x 1 1/4" Shank
- P274R Motor Switch Hold Down Ring

# "K. O. Lee" UTILITY HAND GRINDER SET



**HAND GRINDING ATTACHMENT (P280)**

Used with mounted wheels, it's ideal for die and pattern makers. With straight and cup wheels up to 4" it's a versatile tool for any shop.

### TOOL POST HOLDER (P270)

Three shank sizes available. Doubles as auxiliary handle for sanding and off-hand grinding.

### ABRASIVE DISC ATTACHMENT (P277)

Uses 4" and 5" abrasive discs. High speed cuts faster, prevents loading. Complete with 14 assorted abrasive discs.



**P400 UTILITY HAND GRINDER SET**

includes

- P522 Utility Driver
- P270 Tool Post Holder
- P277 Abrasive Disc Attachment
- P280 Hand Grinding Attachment
- P200B Steel Box

### features:

**ONE TOOL FOR MANY JOBS.** The powerful "K-O" Utility Motor is compact, light weight and easy to handle. Quickly and easily adapted for use with 4" and 5" abrasive discs, grinding wheels from small mounted ones to 3" diameter straight and cup wheels. Tool post holder converts it to a tool post grinder or doubles as an extra handle for off-hand work. Packed in sturdy, attractive steel box with ample room for extra sanding discs, grinding wheels and accessories.



# Universal RESEATER SET

MODEL R505

WEATHERLY INDEX

850

## features:

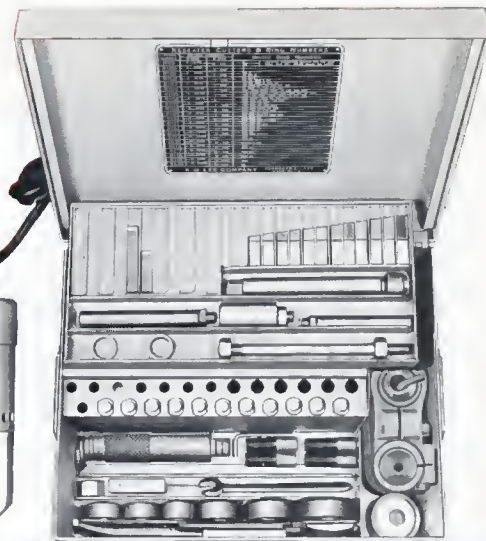
- Simple to Operate
- Accurate — Precision Built
- Tool Steel Cutters
- Rugged Basic Design

## RESEATER SETS AVAILABLE

- R500 Basic Set (Manual Operated)  
R501 Basic Set with R55B Power Drive  
R502 Junior Set (Manual Operated)  
R503 Junior Set with R55B Power Drive  
R504 Universal Set (Manual Operated)  
R505 Universal Set with R55B Power Drive



R504B Box is standard equipment for all sets. Space is provided in box for every part in the reseater line.



## MODEL R504 UNIVERSAL RESEATER CONSISTS OF THE FOLLOWING

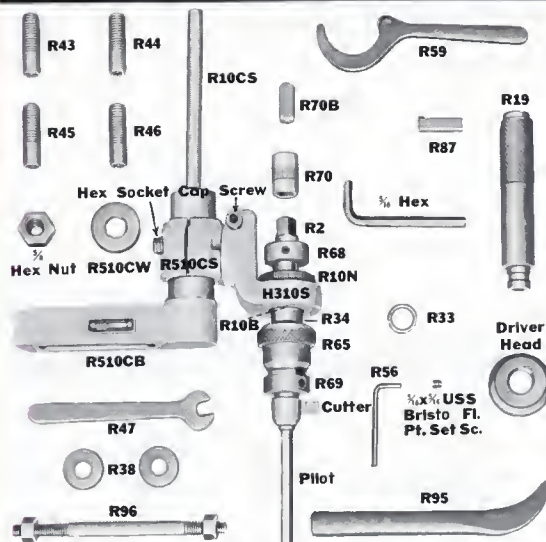
Designed to service 98 per cent of all makes of cars, trucks and tractors.  
Model R504 Universal Reseater Set consists of the following items:

- R2 Reseater Shank, 6 3/4" x 3/4" x 1" head  
R19 Driver Handle  
R20H 1 1/2" Driver Head  
R22H 1 3/4" Driver Head  
R24H 2" Driver Head  
R28H 2 1/2" Driver Head  
R33 Spacer Washer for Shank, 1/4" x 3/4"  
R34 Spacer Washer for Shank, 1/2" x 3/4"  
R38 Two Hardened Washers for Rod  
R43 7/16" U.S.S. Stud Extension  
R44 7/16" S.A.E. Stud Extension  
R45 1/2" U.S.S. Hardened Stud Extension  
R46 1/2" S.A.E. Hardened Stud Extension  
R47 "5" Wrench for Pilots

- R56 Set Screw Wrench  
R59 Spanner Wrench  
R65 Screw Feed Attachment (Consists of R66 Feed Nut with bearing and R67 Feed Screw)  
R68 Stop Collar with Set Screw  
R69 Stop Collar with Raised Bar  
R70 Coupling  
R70B Drive Bar  
R87 Clincher, 1 1/2" long  
R88 Clincher, 2 3/8" long  
R95 Ring Extractor  
R96 Threaded Clamp Rod with Nuts  
R101 to R112 Twelve Cutters  
R210 5/16" Standard Pilot  
R210P1 5/16" +.001 Pilot  
R210P2 5/16" +.002 Pilot  
Shipping Weight 34 lbs.

- R211 11/32" Standard Pilot  
R211P1 11/32" +.001 Pilot  
R211P2 11/32" +.002 Pilot  
R212 3/8" Standard Pilot  
R212P1 3/8" +.001 Pilot  
R212P2 3/8" +.002 Pilot  
R213M9 13/32" —.009 Pilot  
R213 13/32" Standard Pilot  
R214 7/16" Standard Pilot  
R216 1/2" Standard Pilot  
R219 19/32" Standard Pilot  
R220 5/8" Standard Pilot  
R233 1 1/32" Pilot for Ford V8-85  
R504BA Box only  
R504T Tray  
R510 Universal Guide  
KO-17 Data Plate  
5/8" Hex. Nut

## R500 BASIC RESEATER SET



This set is designed to service any one model of car, truck, or tractor from the smallest to the largest, regardless of cylinder block style.  
NOTE: The R500 Basic Set DOES NOT include Pilots, Driver Heads or Cutters for Rings. It is necessary that the purchaser order these items separately, specifying desired size of each for use on selected motors.  
Model R500 Basic Reseater Set consists of the following items:

- R2 Reseater Shank, 6 3/4" x 3/4" x 1" head  
R19 Driver Handle  
R33 Spacer Washer  
R34 Spacer Washer  
R38 Two Hardened Washers  
R43 7/16" U.S.S. Stud Exten.  
R44 7/16" S.A.E. Stud Exten.  
R45 1/2" U.S.S. Hardened Stud Extension  
R46 1/2" S.A.E. Hardened Stud Extension  
R47 "5" Wrench for Pilot  
R56 Set Screw Wrench  
R59 Spanner Wrench

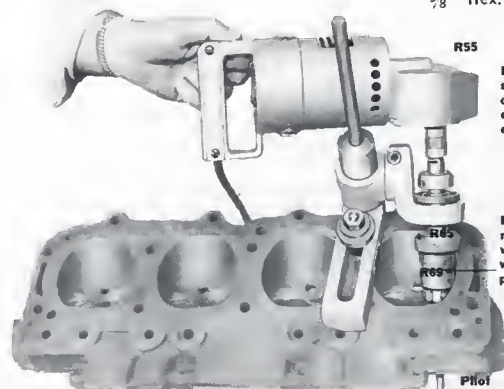
- R65 Screw Feed Attachment (Consists of R66 Feed Nut with bearing and R67 Feed Screw)  
R68 Stop Collar with Set Sc.  
R69 Stop Collar with Raised Bar  
R70 Coupling  
R70B Drive Bar  
R87 Clincher, 1 1/2" long  
R95 Ring Extractor  
R96 Clamp Rod  
R504BA Box only  
R504T Tray  
R510 Universal Guide  
KO-17 Data Plate  
5/8" Hex. Nut

## R502 JUNIOR RESEATER SET

Designed to service 90 per cent of all cars, trucks and tractors; includes equipment for clinching and extracting rings. Additional cutters, pilots and other accessories may be subsequently purchased when needed.

Model R502 Junior Reseater Set consists of the following items:

- R2 Reseater Shank, 6 3/4" x 3/4" x 1" head  
R19 Driver Handle  
R20H 1 1/2" Driver Head  
R24H 2" Driver Head  
R33 Spacer Washer for Shank, 1/4" x 3/4"  
R34 Spacer Washer for Shank, 1/2" x 3/4"  
R38 Two Hardened Washers for Rod  
R43 7/16" U.S.S. Stud Extension  
R44 7/16" S.A.E. Stud Extension  
R45 1/2" U.S.S. Hardened Stud Extension  
R46 1/2" S.A.E. Hardened Stud Extension  
R47 "5" Wrench for Pilots  
R56 Set Screw Wrench  
R59 Spanner Wrench  
R65 Screw Feed Attachment (Consists of R66 Feed Nut with bearing and R67 Feed Screw)  
R68 Stop Collar with Set Sc.  
R69 Stop Collar (Raised Block)  
R70 Coupling  
R70B Drive Bar  
R87 Clincher, 1 1/2" long  
R95 Ring Extractor  
R96 Clamp Rod with Nuts  
R101 to R107 Seven Cutters  
R210 5/16" Standard Pilot  
R211 11/32" Standard Pilot  
R212 3/8" Standard Pilot  
R213 13/32" Standard Pilot  
R213M9 13/32" —.009 Pilot  
R219 19/32" Standard Pilot  
R233 1 1/32" Ford V8-B5 Pilot  
R504BA Box only  
R504T Tray  
R510 Universal Guide  
KO-17 Data Plate  
5/8" Hex. Nut



K. O. Lee Reseater shown in operation on a late extreme angle valve-in-head engine.

R69 Stop Collar with raised bar is used when R65 feed nut will not enter valve port.

**K. O. LEE COMPANY, ABERDEEN, SO. DAKOTA**



# K. O. Lee RESEATER ACCESSORIES

## RESEATER CUTTERS



K-O Reseater Cutters are made from high speed tool steel. Recesses are accurately cut with K-O cutters. There are no adjustments to be made; simply insert cutter in Reseater Shank, press firmly against shoulder of the cutter and lock with set screw. Each K-O cutter is made to accommodate two or more ring sizes.

Cutter No.	For Ring Diameters "O" Side	"K" Side	Cutter No.	For Ring Diameters "O" Side	"K" Side
R 98.....	1-15/16"	1"	R110.....	2-7/16"	2 1/2"
R 99.....	1-1/16"	1 1/8"	R111.....	2-9/16"	2 3/8"
R100.....	1-3/16"	1 1/4"	R112.....	2-11/16"	2 3/4"
R101.....	1-5/16"	1 3/8"	R113.....	2-13/16"	2 7/8"
R102.....	1-7/16"	1 1/2"	R114.....	2-15/16"	3"
R103.....	1-9/16"	1 5/8"	R115.....	3-1/16"	3 1/8"
R104.....	1-11/16"	1 3/4"	R116.....	3-3/16"	3 1/4"
R105.....	1-13/16"	1 7/8"	R117.....	3-5/16"	3 3/8"
R106.....	1-15/16"	2"	R118.....	3-7/16"	3 1/2"
R107.....	2-1/16"	2 1/8"	R119.....	3-9/16"	3 5/8"
R108.....	2-3/16"	2 1/4"	R120.....	3-11/16"	3 3/4"
R109.....	2-5/16"	2 3/8"			

NOTICE: Shank R0 and Feed Screw R67S must be used with R98 and R99.

## RESEATER PILOTS

No.	Size	No.	Size
R208 1/4" Standard Pilot		R212P15 3/8" +.015 Pilot	
R208S 1/4" Short Pilot		R212P30 3/8" +.030 Pilot	
R208M14 6mm Pilot		R213M2 13/32" —.002 Pilot	
R208P6 6.5mm Pilot		R213M9 13/32" —.009 Pilot	
R209 9/32" Standard Pilot		R213M12 10mm Pilot	
R209S 9/32" Short Pilot		R213 13/32" Standard Pilot	
R209M5 7mm Pilot		R214M1 7/16" —.001 Pilot	
R209P15 7.5mm Pilot		R214M2 7/16" —.002 Pilot	
R210M1 5/16" —.001 Pilot		R214 7/16" Standard Pilot	
R210M2 5/16" —.002 Pilot		R214P1 7/16" +.001 Pilot	
R210 5/16" Standard Pilot		R214P2 7/16" +.002 Pilot	
R210P1 5/16" +.001 Pilot		R215 15/32" Standard Pilot	
R210P2 5/16" +.002 Pilot		R215P3 12mm Pilot	
R210P3 8mm Pilot		R216M1 1/2" —.001 Pilot	
R210P4 5/16" +.004 Pilot		R216M2 1/2" —.002 Pilot	
R210P15 5/16" +.015 Pilot		R216 1/2" Standard Pilot	
R210P30 5/16" +.030 Pilot		R216P1 1/2" +.001 Pilot	
R211M1 11/32" —.001 Pilot		R216P2 1/2" +.002 Pilot	
R211M2 11/32" —.002 Pilot		R217 17/32" Standard Pilot	
R211M3 11/32" —.003 Pilot		R217M1 17/32" —.001 Pilot	
R211M9 8.5mm Pilot		R217P1 17/32" +.001 Pilot	
R211 11/32" Standard Pilot		R218 9/16" Standard Pilot	
R211P1 11/32" +.001 Pilot		R218P1 9/16" +.001 Pilot	
R211P2 11/32" +.002 Pilot		R218P2 9/16" +.002 Pilot	
R211P3 11/32" +.003 Pilot		R219 19/32" Standard Pilot	
R211P10 9mm Pilot		R220 5/8" Standard Pilot	
R211P15 11/32" +.015 Pilot		R220P1 5/8" +.001 Pilot	
R211P30 11/32" +.030 Pilot		R222 11/16" Standard Pilot	
R212M1 9.5mm Pilot		R222P1 11/16" +.001 Pilot	
R212M2 3/8" —.002 Pilot		R222P2 11/16" +.002 Pilot	
R212 3/8" Standard Pilot		R224 3/4" Standard Pilot	
R212P1 3/8" +.001 Pilot		R226 13/16" Standard Pilot	
R212P2 3/8" +.002 Pilot		R227P6 .850" Ford Pilot	
R212P5 3/8" +.005 Pilot		R233 1-1/32" Ford Pilot	

## RING CLINCHER EQUIPMENT

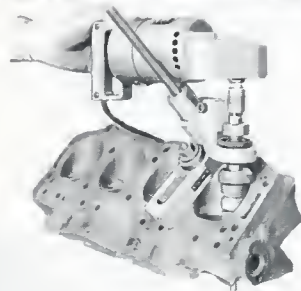


R87 Clincher for rings up to K-O No. 18, 1 1/2" long  
R88 Clincher for rings K-O No. 19 and larger, 2 3/8" long  
R59 Spanner Wrench for Screw Feed

SPECIAL ACCESSORIES FOR USE ON MODEL RE101-A MINNEAPOLIS MOLINE MOTOR

R10CM Guide Casting only  
R12M Raising Block

## R55B INSERT POWER DRIVE



R55B Valve Seat Insert Power Drive is rugged, heavy duty, precision built. Provides adequate power for all jobs. Gets the work done in a hurry. Can be used with all K. O. Lee reseater sets in the field.

Available with 1115 or 230 volt Universal motor.

## DRIVER HANDLE AND DRIVER HEADS



### FOR VALVE SEAT RINGS

K-O Driver Handle and Heads are hardened. The handle is tapped so that a pilot can be screwed in to serve as a guide when driving rings.

R15H Driver Head, 15/16" x 3/4"	R24H Driver Head, 2" x 3/4"
R16H Driver Head, 1" x 3/4"	R25H Driver Head, 2 1/8" x 3/4"
R17H Driver Head, 1 1/8" x 3/4"	R26H Driver Head, 2 1/4" x 3/4"
R18H Driver Head, 1 1/4" x 3/4"	R27H Driver Head, 2 3/8" x 3/4"
R19 Driver Handle, 1 1/4" x 6"	R28H Driver Head, 2 1/2" x 3/4"
R19H Driver Head, 1 3/8" x 3/4"	R29H Driver Head, 2 3/4" x 3/4"
R20H Driver Head, 1 1/2" x 3/4"	R30H Driver Head, 3" x 3/4"
R21H Driver Head, 1 5/8" x 3/4"	R31H Driver Head, 3 1/4" x 3/4"
R22H Driver Head, 1 3/4" x 3/4"	R32H Driver Head, 3 1/2" x 3/4"
R23H Driver Head, 1 7/8" x 3/4"	

(Each driver head includes one 5/16" x 5/16" flat point Bristo set screw.)

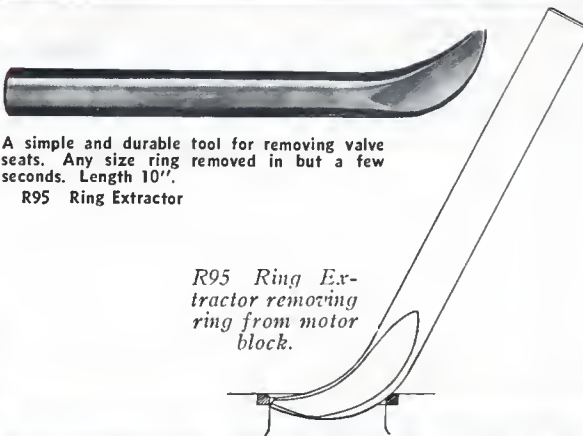
## RESEATER SHANKS

K-O Reseater Shanks are hardened and precision ground. The head of the shank is ground flat on opposite sides, against which the cutter bears. One flat surface is stamped "O"; the other "K." The "O" side is ground 1/32" more than the "K" side, thereby permitting a cutter inserted in the "K" side to cut a recess 1/16" larger than when inserted in the "O" side. Therefore a cutter, used in a K-O shank will cut two different size recesses, each serving several different rings.

R0 Reseater Shank, 6 3/4" x 3/4" x 3/4" head
R1 Reseater Shank, 4 1/2" x 3/4" x 1" head
R2 Reseater Shank, 6 3/4" x 3/4" x 1" head
R3 Reseater Shank, 8" x 3/4" x 1" head

Above Reseater Shanks are available for cutting .005, .010, .015, .020, .030 and .045 oversize recess, utilizing standard cutters. To order specify shank and oversize, as R2+.010.

## VALVE SEAT RING EXTRACTORS



A simple and durable tool for removing valve seats. Any size ring removed in but a few seconds. Length 10".

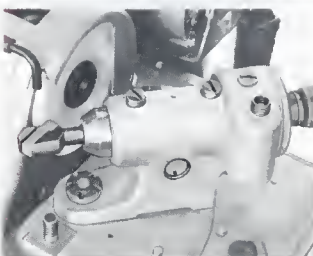
R95 Ring Extractor

## FEED SCREW



R65 Screw Feed Attachment (Consists of R66 Feed Nut with bearing and R67 Feed Screw)  
R67 Feed Screw  
R67S Feed Screw (For use with R0 Shank and R99 Cutter) fits in R65 screw seat attachment.  
R68 Stop Collar. R69 Stop Collar with raised blocks.

## K37 SHARPENING FIXTURE



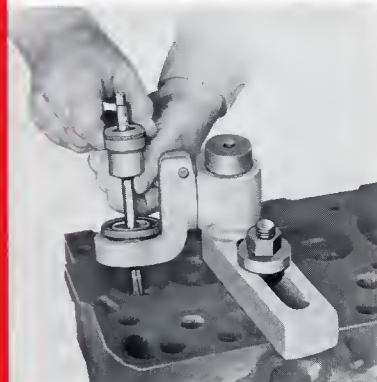
K. O. Lee reseater cutters are easily sharpened with the sharpening fixture (K37) which holds the cutter in position in the workhead. Disconnect cable from workhead during cutter sharpening operation.



# VALVE GUIDE REAMING SETS



Aligning guide assembly with original valve guide bore using a Lee self-expanding pilot and 3/8" aligning bushing.



Inserting bushing and reamer in guide assembly after aligning guide assembly with valve guide bore.



The reamer is guided true with reaming bushing. T-wrench is used for hand operation.



The R55B power drive is adaptable as a power unit for reaming operation.

The K. O. Lee valve guide reaming tools are designed to service late model engines which have valve guides cast as part of the cylinder head. These tools can be used to install oversize stem valves or replaceable valve guides.

## Installing Oversize Stem Valves

This is accomplished by reaming out the valve guide for oversize stem valves. Most of the engines and valve manufacturers now offer at least three sizes of oversize valves.

The K. O. Lee reamer guide provides a true alignment with original guide bore using Lee self-expanding pilots. The reamer is held rigid with reaming bushing during reaming operation. Simple to operate and extremely accurate. Sets available described on page 2.

## Installing Replaceable Valve Guides

When old valves are still serviceable, it is more economical to install replaceable valve guides. Roughing and finishing reamers used with the K. O. Lee reamer guide, accurately cut the recess for a replaceable guide. A complete listing of the replaceable valve guides, roughing and finishing reamers, and expanding pilots available are listed on page 3. Guide service data on back page.



## OPERATING INSTRUCTIONS

### FOR INSTALLING OVERSIZE STEM VALVE

Clean out valve guide hole with an H1000 series Solid Valve Guide Reamer. Position self-expanding pilot in valve guide with P61 Pilot Wrench. Loosen all swivels of reamer guide assembly and install pilot aligning bushing in universal ball. Position unit on expanding pilot. Rotate unit until clamp rod can be aligned to stud hole. Tighten clamp rod with fingers until base is held firmly to block. Tighten swivels and ball socket. Loosen clamp rod, reposition and lock to block as shown in photo number 1. (NOTE: To attain extreme accuracy, it may be necessary to loosen and tighten swivels of reamer guide assembly several times.)

Remove expanding pilot and aligning bushing. Position piloted reamer in valve guide. Install reaming bushing on top shank of reamer as shown in photo number 2.

In photo number 3, Reaming Bushing is shown in position in universal ball, providing true alignment. Unit is now ready for reaming. T-wrench is used for hand operation.

Power Drive R55B, adaptable as a power unit, is shown in photo number 4. Available with 115 or 230 volt universal motor.

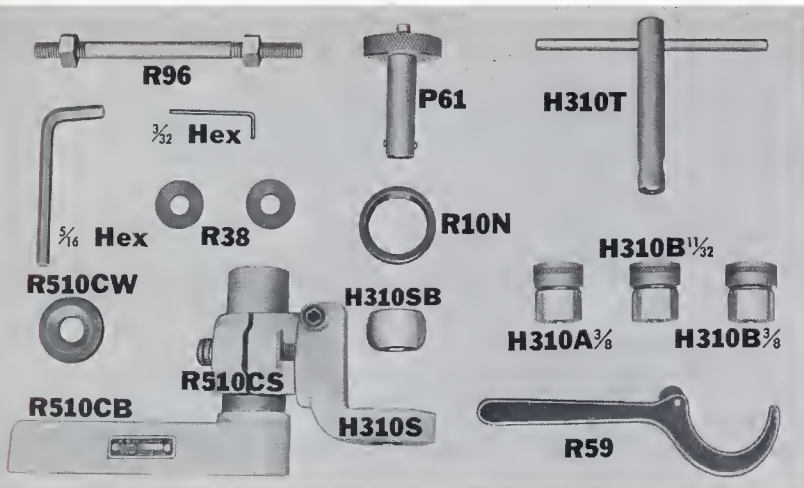
### FOR INSTALLING REPLACEABLE VALVE GUIDES

The same procedure is used when installing replaceable valve guides. Let us assume that the replaceable guide you wish to install has an O.D. of  $\frac{1}{2}$ ". In photo 2, the H8494 roughing reamer would be used with the H310B $\frac{3}{8}$ " bushing. The roughing reamer operation would be followed with the H3500 Carbon Steel or H7500 High Speed Steel finishing reamer using the same bushing, as all roughing and finishing reamers have a  $\frac{3}{8}$ " shaft. As power is required for these reaming operations a  $\frac{1}{2}$ " drill is recommended. All thin wall valve guides should be installed with some type of press. O.D. OF VALVE GUIDE AND HOLE MUST BE LUBRICATED BEFORE ATTEMPTING TO INSTALL GUIDE. If necessary to ream I.D. of guide after installation, use H1000 series solid reamers shown on page 3.



# K. O. LEE VALVE GUIDE REAMING SETS

## H300 Basic Valve Guide Reaming Set



This basic set used with any of the H2000 series Valve Guide Reamers and sets listed on page 3, provides upper guide for reamer. Enables mechanic to get a true hole, not bell shaped. Self Expanding Pilots required are listed in special valve guide reaming sets and on page 3.

### SET CONSISTS OF

H310 Reamer Guide Assembly	26.00
H310S Swivel Head	
H310SB Swivel Ball	
R510CB Base	
R510CS Univ. Swivel	
R510CW Special Washer	
R10N Guide Nut	
5/16 Hex Wrench	
H310A 3/8" Aligning Bushing	3.90
H310B11/32" Reaming Bushing	3.90
H310B3/8" Reaming Bushing	3.90

Each Reaming Bushing will take care of all oversize reamers in its size.

H310T T-Wrench	2.60
P61 Pilot Wrench	4.90
R38 Two Washers	.20
R59 Spanner Wrench	3.00
R96 Clamp Rod	.60
3/32 Hex Wrench	.20
H505B Metal Box	20.00

COMPLETE SET ..... 69.20

WITH THE ADDITION OF A SMALL NUMBER OF PARTS THIS SET CAN BE USED AS A BASIC RESEATER SET. REFER TO K. O. LEE RESEATER CATALOG SHEET.

The H300 Basic Valve Guide Reaming Set can be used to install oversize stem valves or to install replaceable valve guides. To install oversize stem valves, select the proper oversize H2000 SERIES reamer, and self expanding pilot from the listing of accessories on page 3.

To install replaceable valve guides, select the correct self expanding pilot for alignment, and roughing and finishing reamers to cut the O.D. size of the replaceable guide.

The reaming sets listed below, though set up for installing oversize valves, can be used to install replaceable guides with addition of roughing and finishing reamers, H310G adapter and H310B3/8" reaming bushing.

## R55B Power Drive

AVAILABLE FOR  
H300, H302, H306 AND H307 SETS  
**\$95.00**

H310D Adapter 1/4" Square	3.60
H310E Adapter 9/32" Square	3.60
H310F Adapter 21/64" Square	3.60

## H302 Junior Valve Guide Reaming Set

This set will service Ford, Chevrolet, Mercury, Lincoln and Pontiac engines for .003" oversize valves. Plymouth, Dodge, Chrysler, DeSoto for .005" oversize valves.

### SET CONSISTS OF

H310 Reamer Guide Assembly	26.00
H310A 3/8" Aligning Bushing	3.90
H310B11/32" Reaming Bushing	3.90
H310B3/8" Reaming Bushing	3.90

Each Reaming Bushing will take care of all oversize reamers in its size.

H310T T-Wrench	2.60
H2347 Reamer 11/32"+.003"	4.60
H2376 Reamer 3/8"+.001" (.376")	4.60
H2379 Reamer 3/8"+.005"	4.60
P61 Pilot Wrench	4.90
P84L 11/32" Self Expanding Pilot	6.00
P85L 3/8" Self Expanding Pilot	6.00
R38 Two Washers	.20
R59 Spanner Wrench	3.00
R96 Clamp Rod	.60
3/32" Hex Wrench	.20
H505B Metal Box	20.00

COMPLETE SET ..... 95.00

## Important Notice

To service Ford and Chevrolet engines with 7/16" oversize valves the following following tools must be added to H302 and H304 Valve Guide Reaming Sets.

H2441 Reamer 7/16"+.003" (.441")	4.60
H2453 Reamer 7/16"+.015" (.453")	4.60
P86 7/16" Self Expanding Pilot	5.50
P86RM 7/16"+.015" Expand. Pilot	6.00

## H304 Universal Valve Guide Reaming Set

This set will service Ford, Mercury, Lincoln, Chevrolet, Pontiac .003", .015" and .030" oversize valves. Chrysler, DeSoto, Dodge, Plymouth .005", .015" and .030" oversize valves.

### SET CONSISTS OF

H310 Reamer Guide Assembly	26.00
H310A 3/8" Aligning Bushing	3.90
H310B11/32" Reaming Bushing	3.90
H310B3/8" Reaming Bushing	3.90

Each Reaming Bushing will take care of all oversize reamers in its size.

H310T T-Wrench	2.60
H2347 Reamer 11/32"+.003"	4.60
H2359 Reamer 11/32"+.015"	4.60
H2374 Reamer 11/32"+.030"	4.60
H2376 Reamer 3/8"+.001" (.376")	4.60
H2379 Reamer 3/8"+.005"	4.60
H2388 Reamer 3/8"+.013" (.388")	4.60
H2389 Reamer 3/8"+.015"	4.60
H2403 Reamer 3/8"+.028" (.403")	4.60
H2404 Reamer 3/8"+.030"	4.60
P61 Pilot Wrench	4.90
P84L 11/32" Self Expanding Pilot	6.00
P84RL 11/32"+.015" Self Expand. Pilot	6.00
P85L 3/8" Self Expanding Pilot	6.00
P85RL 3/8"+.015" Self Expand. Pilot	6.00
R38 Two Washers	.20
R59 Spanner Wrench	3.00
R96 Clamp Rod	.60
3/32" Hex Wrench	.20
H505B Metal Box	20.00

COMPLETE SET ..... 134.60

## H305 Universal Valve Guide Reaming Set

### SET CONSISTS OF

H304 Universal Set	134.60
H310D Adapter 1/4" square	3.60
H310E Adapter 9/32" square	3.60
R55B Power Drive	95.00

COMPLETE SET ..... 236.80

## H306 Special Valve Guide Reaming Set

FOR FORD, MERC., LINC., CHEV.  
WITH 1/32" VALVES

### SET CONSISTS OF

H300 Basic Valve Guide Set	69.20
H2347 Reamer 11/32"+.003"	4.60
H2359 Reamer 11/32"+.015"	4.60
H2374 Reamer 11/32"+.030"	4.60
P84L 11/32" Self Expanding Pilot	6.00
P84RL 11/32"+.015" Self Exp. Pilot	6.00

COMPLETE SET ..... 95.00

## Important Notice

To service the above engines with 3/8" or 7/16" oversize valves, the following tools must be added.

### FOR 3/8" VALVES

H2376 Reamer 3/8"+.001" (.376")	4.60
H2388 Reamer 3/8"+.013" (.388")	4.60
H2403 Reamer 3/8"+.028" (.403")	4.60
P85L 3/8" Self Expanding Pilot	6.00
P85RL 3/8"+.015" Expand. Pilot	6.00

### FOR 7/16" VALVES

H2441 Reamer 7/16"+.003" (.441")	4.60
H2453 Reamer 7/16"+.015" (.453")	4.60
P86 7/16" Self Expanding Pilot	5.50
P86RM 7/16"+.015" Expand. Pilot	6.00

## H307 Special Valve Guide Reaming Set

FOR PLYMOUTH, DODGE,  
DeSOTO, CHRYSLER

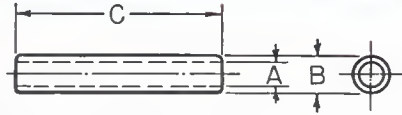
### SET CONSISTS OF

H300 Basic Valve Guide Set	69.20
H2379 Reamer 3/8"+.005"	4.60
H2389 Reamer 3/8"+.015"	4.60
H2404 Reamer 3/8"+.030"	4.60
P85L 3/8" Self Expanding Pilot	6.00
P85RL 3/8"+.015" Self Expand. Pilot	6.00

COMPLETE SET ..... 95.00



## Replaceable Valve Guides



Popularity Rating	Part No.	A I.D.	B O.D.	C Length	Application
23	GL1240	.250	.439	2 1/4	Briggs-Stratton, Clinton
28	GL1275	.276	.498	2 1/4	Special Application
22	GL1276	.2756	.397	1 1/4	36 H.P. Volkswagen
10	GL1310	.3115	.439	1 1/4	Wisconsin with Replaceable Guides and Ford Falcon and Comet
16	GL1311	.3115	.439	2 1/4	Wisconsin, AGN, AHH, VG4D
19	GL1315	.3150	.475	2 1/4	40 H.P. Volkswagen
26	G1316	.3115	.502	1 1/4	Waukesha ICK Exh.
27	G1317	.3126	.502	1 1/4	Waukesha ICK Int.
25	GL1347	.3427	.502	3 1/4	GMC 305 Engine, Exhaust
7	G1345	.3435	.502	2 1/4	Int., Chev. 265, 383, 327, Chev. II Both; Ford 272, 292, 312 with 1/4 Exh.; 6 cyl. Rambler Alum. Eng. Both; Pontiac 61-63 Int.
2	G1340	.3435	.502	2 1/4	Exh., Chev. 265, 283, 327; Ford Int., 239, 256, 302, 332; Int. 55-59 272, 292, 312; GMC 336 Int.; Pont. 61-63 Exh.
1	G1342	.3435	.502	2 1/4	Ford 6 cyl. Both; 1960-62 272, 292 Int.; 1955-59 272, 292, 312 Exh.; GMC 288, 316, 347 Exh.; Pontiac 1955-60 Int.; Buick Spec. 6 Both
4	G1343	.3435	.502	2 1/4	Exhaust, Ford, Mercury, Lincoln 239, 256 Eng.; 1960-62 272, 292, 312 Engines
3	G1344	.3435	.502	2 1/4	GMC 288, 316, 347, 305 Intake; Pontiac 1954-60, Exhaust
17	GL1346	.3435	.518	2 1/4	All Corvairs
18	GL1341	.3455	.6578	2 1/4	Oldsmobile, Intake, 54-60 With Replaceable Valve Guides
5	G1373	.3735	.502	2 1/4	Ford, Merc., Linc., 332, 352, 406 Both; Exh. 353, 430; Int. 302, 332 with 1/4 Exh.
9	G1374	.3735	.502	2 1/4	Valiant and Lancer, 170, 225, Both
11	G1375	.3735	.502	2 1/4	Lincoln, Mercury 283, 383, 430 Engines, Intake; GMC 336 Exhaust
6	G1370	.3745	.502	2 1/4	Plymouth, Dodge, Chrysler Engines 260, 270, 315, 325 Both
12	G1376	.3745	.502	2 1/4	Chry. Corp. Eng. 277, 301, 318, Exh.; 350, 354C-75, 361, 383, 413 Both; Chev. 348, 409 Int.
8	G1371	.3745	.502	2 1/4	Chry. Eng. 277, 301, 318, Int.; D500 (325) Dart, Both; Chev. 348, 409 Exh.
14	G1377	.3745	.502	2 1/4	GMC 351, 401, 702 Intake; Wisconsin VR4D, VQ4, VR4; Chry. D500 (354) Both
20	G1372	.3745	.6263	2 1/4	Buick, 1954-62 With Replaceable Guides
21	G1390	.3973	.6578	2 1/4	Oldsmobile, Exhaust, 1954-60 With Replaceable Guides
15	GL1431	.437	.627	2 1/4	Exhaust, Ford, 272, 292, 302, 332, Heavy Duty Engines with 1/4 Exhaust
13	GL1430	.437	.627	2 1/4	Ford, Chevrolet and Lincoln with 1/4 Exhaust 1958-60 Ford 401, 477, 534 Engines, Both
24	GL1432	.437	.627	3 1/4	GMC 351, 401, 702, Exhaust

The G Series Guides are Cast Iron and list at .50 each. The GL Guides are "Lee-Alloy", a dense longer wearing alloy metal. The GL Series Guides list at .80 each.

## Tools to Install Valve Guides

H310B 1/16" Reaming Bushing ..... 3.90  
H310G 1/2" Round Drive for 1/2" Electric Drill 3.60  
The H310G Drive and the H310B 1/16" Reaming Bushing are used with roughing and finishing reamers.  
We recommend a 1/2" drill for power, as a power unit with about 400 R.P.M. is required. The roughing reamer operation would be followed with a carbon steel or high speed steel finishing reamer. Both types are listed below. We recommend the high speed steel finishing reamer for volume production.

### Reamers to Install 1/16" O.D. Guide

H3437 Finishing Reamer, Carbon Steel ..... 5.00  
H7437 Finishing Reamer, High Speed Steel .. 13.50  
H8432 1/4" Roughing Reamer, High Speed Steel 15.50  
1/4" Piloted End For 1/4" I.D. Valve Guide  
H8432 3/8" Roughing Reamer, High Speed Steel 15.50  
5/16" Piloted End For 5/16" I.D. Valve Guide

### Reamers to Install 1/2" O.D. Guide

H3500 Finishing Reamer, Carbon Steel ..... 5.00  
H7500 Finishing Reamer, High Speed Steel .. 13.50  
H8494 1/32" Roughing Reamer, High Speed Steel 15.50  
11/32" Piloted End For 11/32" I.D. Valve Guide  
H8494 3/8" Roughing Reamer, High Speed Steel 15.50  
3/8" Piloted End For 3/8" I.D. Valve Guide

### Reamers to Install 5/8" O.D. Guide

H3625 Finishing Reamer, Carbon Steel ..... 5.00  
H7625 Finishing Reamer, High Speed Steel .. 13.50  
H8619 1/4" Roughing Reamer, High Speed Steel 15.50  
7/16" Piloted End For 7/16" I.D. Valve Guide

## Solid Piloted Reamers

### H2000 SERIES

Special length reamers for use with Lee valve guide reaming sets. Reamers Each \$4.60 — Reaming Bushings Each \$3.90  
Each Bushing will guide the standard size reamer plus all over-sizes of its stamped size. For example, the H310B 5/16" Bushing will guide the H2317, H2327, H2342 Reamers.

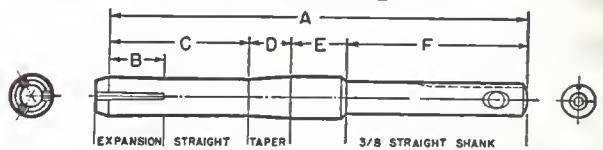
Reamer	Size	Bushing	Reamer	Size	Bushing
H2315	5/16+.003	H310B 5/16	H2377	3/8+.003	H310B 3/8
H2317	5/16+.004	H310B 5/16	H2379	3/8+.005	H310B 3/8
H2328	5/16+.015	H310B 5/16	H2384	3/8+.010	H310B 3/8
H2342	5/16+.030	H310B 5/16	H2388	3/8+.013	H310B 3/8
H2347	11/32+.003	H310B 11/32	H2389	3/8+.015	H310B 3/8
H2349	11/32+.005	H310B 11/32	H2394	3/8+.020	H310B 3/8
H2354	11/32+.010	H310B 11/32	H2403	3/8+.028	H310B 3/8
H2359	11/32+.015	H310B 11/32	H2404	3/8+.030	H310B 3/8
H2364	11/32+.020	H310B 11/32	H2441	1/2+.003	H310B 1/2
H2374	11/32+.030	H310B 11/32	H2453	1/2+.015	H310B 1/2
H2376	3/8+.001	H310B 3/8	H2468	1/2+.030	H310B 1/2

## K. O. LEE OVERSIZE VALVE GUIDE HAND REAMING SETS

H2000 Reamer Set, for Ford, Merc., Chev. — 16.00  
Includes H2347, 11/32" + .003"; H2359, 11/32" + .015"; H2374, 11/32" + .030" Reamers.

H2002 Reamer Set, for Chrysler Corp. Eng. — 16.00  
Includes H2379, 3/8" + .005"; H2389, 3/8" + .015"; H2404, 3/8" + .030" Reamers.

## Self Expanding Pilots

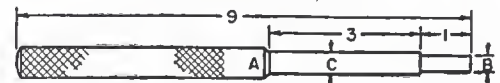


Part No.	Pilot Size	A	B	C	D	E	F	Price
P95	1/4	4 1/8	3/4	1 1/8	7/8		2 3/8	6.00
P83L	5/16	6 1/4	7/8	1 1/4	3/4	1/2	3 1/4	6.00
P83RL	5/16+.015	6 1/2	1 1/8	2	1 1/4		3 1/4	6.00
P84L	1/2	6 1/4	7/8	1 1/4	3/4	1/2	3 1/4	6.00
P84RL	1/2+.015	6 1/2	1 1/8	2	1 1/4		3 1/4	6.00
P85F	.370	6	7/8	2	3/4		3 1/4	5.50
P85L	3/8	7 1/4	7/8	2 1/4	3/4	1	3 1/4	6.00
P85RL	3/8+.015	7 1/2	1 1/8	2 1/2	1 1/4		3 1/4	6.00
P97R	.397	5 5/8	7/8	2 1/8	5/8		3 1/8	6.00
P86RM	5/16+.015	7 1/2	1	2 1/2	3/4	1	3 1/4	6.00
P86	7/16	6 1/4	1	2 1/2	3/4		3	5.50
P97	1/2	7 1/4	7/8	2 1/4	3/4	1	3 1/4	6.00

A complete listing of pilots is included in K. O. Lee Form SG-57.

## Valve Guide Drivers

PRICE EACH \$2.00



No.	B	C	No.	B	C
G2250	1/4 .240	.430	G2344	11/32 .334	.625
G2275	7MM .265	.387	G2375	3/8 .365	.490
G2276	7MM .265	.625	G2376	3/8 .365	.615
G2312	5/16 .302	.430	G2397	.397	.388
G2313	5/16 .302	.625	G2437	7/16 .427	.615
G2343	11/32 .334	.490	G2500	1/2 .490	.677

## Valve Guide Reamers

### SOLID TYPE H1000 SERIES

Number	Size	Number	Size	Number	Size
H1236	6MM	H1334	8 1/2MM	H1393	10MM
H1250	1/4"	H1343	11/32"	H1397	.397"
H1255	6 1/2MM	H1353	11/32" + .010	H1406	13/32"
H1275	7MM	H1363	11/32" + .020	H1437	7/16"
H1281	9/32"	H1354	9MM	H1472	12MM
H1295	7 1/2MM	H1373	3/8" — .002	H1500	1/2"
H1312	5/16"	H1374	9 1/2MM	H1625	5/8"
H1315	8MM	H1375	3/8"		

# GUIDE APPLICATION DATA

THE VALVE GUIDES LISTED ARE OUR "GL LEE-ALLOY" SERIES, MADE OF A DENSE LONGER WEARING ALLOY METAL. MOST OF THESE SIZES ARE ALSO AVAILABLE IN CAST IRON "G" SERIES. SEE LISTING ON PAGE 3.

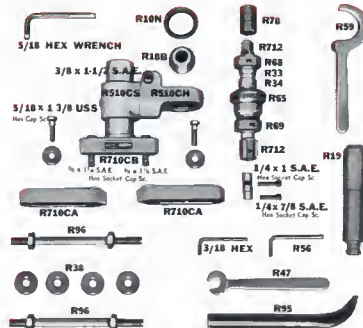
Year	Model	Valve Intake	Guides Exhaust	Roughing Reamer	Finishing Reamer	Pilot Size	Pilot No.	Valve Guide Driver	Valve Guide Reamer
<b>BUICK</b>									
1954-62	All Models Except Special .....	GL1372	GL1372	Not Req.	Not Req.	3/8	Not Req.	G2376	H1375
<b>BRIGGS AND STRATTON AND CLINTON</b>									
1954-62	All Models 1/4" Stem No Factory Guide .....	GL1240	GL1240	H8432 1/4	H7437	1/4	P95L	G2250	H1250
<b>CHEVROLET</b>									
1955-63	All V8 Pass. and Trucks; 265, 283, 327 Engines ....	GL1345	GL1340	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1958-62	All 348, 409 Engines .....	GL1376	GL1371	H8494 3/8	H7500	3/8	P85L	G2375	H1375
1960-63	Corvair (Replaceable Guides) .....	GL1346	GL1346	Not Req.	Not Req.	1/2	Not Req.	G2343	H1343
1962-63	Chevy II .....	GL1345	GL1345	H8494 1/2	H7500	1/2	P84L	G2343	H1343
<b>CHRYSLER CORPORATION ENGINES</b>									
1954-56	Plymouth, Dodge; 260, 270, 315, 325 Engines .....	GL1370	GL1370	H8494 3/8	H7500	3/8	P85L	G2375	H1375
1956-62	Plymouth, Dodge, 277, 301, 318 Engines .....	GL1371	GL1376	H8494 3/8	H7500	3/8	P85L	G2375	H1375
1958-62	Plymouth, Dodge, DeSoto, Chrysler; 350, 354, 361, 383, 413 Engines (D500-354 Takes GL1377) .....	GL1376	GL1376	H8494 3/8	H7500	3/8	P85L	G2375	H1375
1956-58	Dodge, DeSoto; 325 Engine (D500) .....	GL1371	GL1371	H8494 3/8	H7500	3/8	P85L	G2375	H1375
1960-63	Valiant and Lancer .....	GL1374	GL1374	H8494 3/8	H7500	3/8	P85L	G2375	H1375
<b>COMET AND FALCON</b>									
1960-63	All Models; 144, 170 Engines .....	GL1310	GL1310	H8432 3/8	H7437	3/8	P83L	G2312	H1312
<b>FORD COMPANY ENGINES</b>									
1954-62	6 Cyl. Pass. and Trucks; 223 Eng.; and 279 V8 Truck .....	GL1342	GL1342	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1954-55	V8 Passenger and Trucks; 239, 256 Engines .....	GL1340	GL1343	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1955-59	V8 Passenger and Trucks; 272, 292, 312 Engines ....	GL1340	GL1342	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1960-62	V8 Passenger and Trucks; 272, 292, 312 Engines ....	GL1342	GL1343	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1957-63	V8 Pass. and T-Bird, Merc.; 332, 352, 390, 406 Eng. ....	GL1373	GL1373	H8494 3/8	H7500	3/8	P85L	G2375	H1373
1958-62	Thunderbird, Lincoln, Mercury; 383, 430 Engines ....	GL1375	GL1373	H8494 3/8	H7500	3/8	P85L	G2375	H1373
1956-57	H. D. Truck with Sodium Valves; 272, 292 Engines .....	GL1345	GL1431	H8494 1/2	H7500	1/2	P84L	G2343	H1343
	EXHAUST .....			H8619 3/8	H7625	3/8	P86	G2437	H1437
1956-57	H. D. Truck with Sodium Valves; 302, 332 Engines .....	GL1340	GL1431	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1958-62	H. D. Truck with Sodium Valves; 302, 332 Engines .....	GL1373	GL1431	H8494 3/8	H7500	3/8	P85L	G2375	H1373
	EXHAUST .....			H8619 3/8	H7625	3/8	P86	G2437	H1437
1958-62	H. D. Truck with Sodium Valves; 401, 477, 534 Eng. ....	GL1430	GL1430	H8619 3/8	H7625	3/8	P86	G2437	H1437
<b>GMC TRUCKS</b>									
1955-60	All V8 with 288, 316, 347 Engines .....	GL1344	GL1342	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1957-59	All V8 with 336 Engine .....	GL1340	GL1375	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1960-63	All V6 with 305 Engine .....	GL1344	GL1347	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1960-63	All V6 with 351, 401, 702 Engines .....	GL1377	GL1432	H8494 3/8	H7500	3/8	P85L	G2375	H1375
	EXHAUST .....			H8619 3/8	H7625	3/8	P86	G2437	H1437
<b>OLDSMOBILE</b>									
1954-60	All Models (with Replaceable Guides) .....	GL1341	GL1390	Not Req.	Not Req.	Int. 1/2 Exh. .397	Not Req.	G2344 G2397	H1343 H1397
<b>PONTIAC</b>									
1955-60	All V8's .....	GL1342	GL1344	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1961-63	All V8's and 4 Cylinder Tempest .....	GL1345	GL1340	H8494 1/2	H7500	1/2	P84L	G2343	H1343
1963	421 H. O. Engine .....	GL1345	GL1345	H8494 1/2	H7500	1/2	P84L	G2343	H1343
<b>RAMBLER</b>									
1959-62	Aluminum OHV, 6 Cylinder .....	GL1345	GL1345	H8494 1/2	H7500	1/2	P84L	G2343	H1343
<b>VOLKSWAGEN</b>									
1953-60	All Models, 36 H.P. (Replaceable Guides) .....	GL1276	GL1276	Not Req.	Not Req.	7MM	Not Req.	G2275	H1275
1960-63	All Models, 40 H.P. (Replaceable Guides) .....	GL1315	GL1315	Not Req.	Not Req.	8MM	Not Req.	G2312	H1315
<b>WISCONSIN</b>									
	ACN, BKN, VH4, VE4, VF4, TE, TF .....	GL1310	GL1310	H8432 3/8	H7437	3/8	P83L	G2312	H1312
	ACN, AHH, VG4D .....	GL1311	GL1311	H8432 3/8	H7437	3/8	P83L	G2312	H1312
	VR4D, VQ4, VR4 .....	GL1377	GL1377	H8494 3/8	H7500	3/8	P85L	G2375	H1375

**NOTE:** H310G 1/2 Round Drive and H310B 3/8 Reaming Bushing are used with Roughing and Finishing Reamers. We recommend a 1/2" drill for power, as a power unit with about 400 R.P.M. is required. Roughing Reamer operation is followed with a Finishing Reamer. After Guide has been installed, our H1000 Series Solid Reamers as listed in extreme right column above, may be used to ream I.D. of Guide.

**K. O. LEE COMPANY, ABERDEEN, SO. DAKOTA**

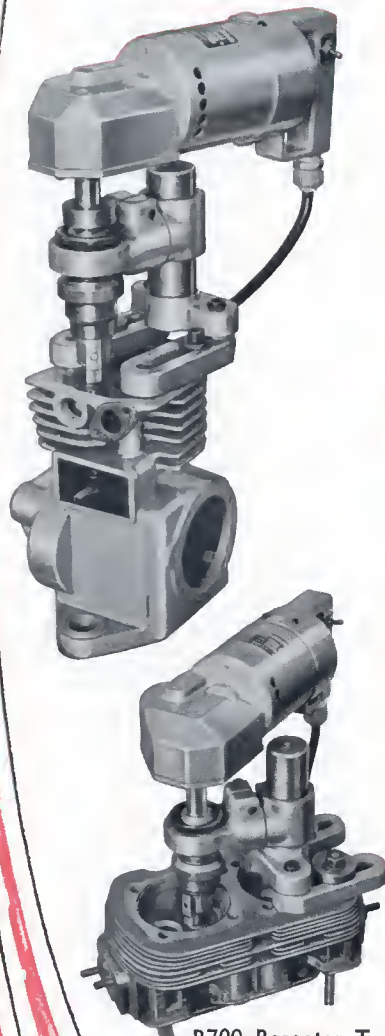


# Now! see the **NEW!** **R700 Special Reseater Set**



The R700 Special Reseater Set is designed to service foreign cars, small stationary engines, and engines where valve guide is too near top of seat and interferes with cutting recess.

**NOTE:** The R700 Set DOES NOT include Pilots, Driver Heads or Cutters for Rings. It is necessary that the purchaser order these items separately, specifying desired size of each for use on selected motors.



R700 Reseater Tools are shown servicing a lawn mower type engine upper left and a foreign car engine lower left. R55B Power Drive shown is \$95.00 extra.

Model R700 Special Reseater Set consists of the following items:

R19	Driver Handle	2.35	R65	Screw Feed	12.00	R710	Universal Guide	28.00
R33	Spacer Collar	.20	R68	Stop Collar	1.80	R712	Reseater Shank	12.60
R34	Spacer Collar	.20	R69	Drive Collar	2.10		Washer 2 @	.40
R38	Washer 4 @	.10	R70	Coupling	1.30		1/4 x 1/2 SAE Hex Soc. Cap Sc.	.20
R47	Wrench	.45	R70	Ring Extractor	2.80		1/4 x 1 SAE Hex Soc. Cap Sc.	.25
R56	Wrench	.20	R96	Clamp Rods 2 @	1.30		2 x 1/2 S.T. Rd. Hd. Sc. NP (2)	.10
R59	Spanner Wrench	3.15	R504B	Box	23.00		3/4 x 1 1/2 USS Hex Cap Sc. (2)	.20

**R700 Special Reseater Set** - - - - - **\$93.00**  
**R55B Power Drive** 115 or 230V (Please specify voltage) - - - - - **\$95.00**

## RESEATER PILOTS

EACH \$3.50 EXCEPT R216, R216P1 \$4.10, MM PILOTS \$4.65

R208M14	6MM	.2362	R211P3	1/16+.003	.347
R208	1/4	.250	R211P10	9MM	.3543
R208P6	6.5MM	.2559	R211P15	1/16+.015	.3577
R209M5	7MM	.2756	R211P30	1/16+.030	.372
R209	3/8	.28125	R212M2	3/16-.002	.373
R209P15	7.5MM	.2953	R212M1	9.5MM	.3740
R210M2	1/16-.002	.3105	R212	1/16	.3750
R210M1	1/16-.001	.3115	R212P1	3/16+.001	.376
R210	1/2	.3125	R212P2	3/16+.002	.377
R210P1	1/16+.001	.3135	R212P5	3/16+.005	.380
R210P2	1/16+.002	.3145	R212P15	1/16+.015	.3900
R210P3	8MM	.315	R213M12	10MM	.3937
R210P4	1/16+.004	.3165	R213M2	1/16-.002	.40425
R210P15	1/16+.015	.3275	R212P30	3/16+.030	.405
R210P30	1/16+.030	.342	R213	1/16	.40625
R211M9	8.5MM	.3347	R214M2	1/16-.002	.4355
R211M3	1/16-.003	.34075	R214M1	1/16-.001	.4365
R211M2	1/16-.002	.34175	R214	1/16	.4375
R211M1	1/16-.001	.34275	R214P1	1/16+.001	.4385
R211	1/16	.34375	R214P2	1/16+.002	.4395
R211P1	1/16+.001	.34475	R216	1/2	.500
R211P2	1/16+.002	.34575	R216P1	1/2+.001	.501

Pilots and Driver Heads listed normally used to service small engines. See Form R60 for complete listing.

## RESEATER CUTTERS

EACH \$4.10

R730	1/16"	Special Cutter
R731	1/8"	Special Cutter
R732	1"	Special Cutter
R734	1 1/4"	Special Cutter
R736	1 1/2"	Special Cutter
R738	1 3/4"	Special Cutter
R740	1 7/8"	Special Cutter
R742	1 3/4"	Special Cutter
R743	1 3/8"	Special Cutter
R744	1 1/2"	Special Cutter
R746	1 1/4"	Special Cutter

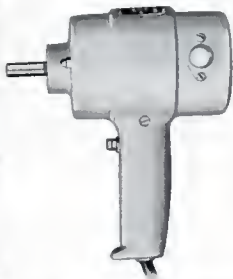
## DRIVER HEADS

R15H	\$1.50, Others \$1.70
R15H	Driver Head, 1/16x3/4
R16H	Driver Head, 1x3/4
R17H	Driver Head, 1 1/4x3/4
R18H	Driver Head, 1 1/2x3/4
R19H	Driver Head, 1 3/4x3/4

**K. O. Lee Company**  
**ABERDEEN, SO. DAKOTA**



# P202 Special Valve Seat Grinder Set



## P422 Utility Driver

¼ H.P. w/safety  
button switch &  
10 ft. 3-conduct-  
or cable, 115V.

## Designed to Service Small Engines, Power Mowers, Foreign Cars and Motorcycles

### Model P202 Special Valve Seat Grinder Set Standard Equipment

P61	Pilot Wrench ....	4.90	P191	Gr. Wh. Holder	7.80
P95S	¼" Pilot .....	6.00	P522	Utility Driver ....	72.00
P96S	⅜" Pilot .....	6.00	P223	Hexagonal Ball	
P83S	⅝" Pilot .....	6.00		Terminal for ⅜"	
P372	Wh. Dress. with			Shaft .....	4.20
	P176D Dia. Sc. ..	48.00	P226*	1" Grind. Wheel	2.60
P189	Tube Brush for		P227*	1½" Grind. Whl.	2.40
	Cleaning Holder	.20	P228*	1½" Grind. Whl.	2.40
P190B	Adapter Bushing	N.C.	P229*	1½" Grind. Whl.	2.40
	(⅝" to 1½")		P231	1¼" Grind. Whl.	2.40
	Attached to P191		P232	1½" Grind. Whl.	2.40

## Complete Set - - - - - \$165.00

P500B METAL BOX AVAILABLE \$23.00 EXTRA

Milimeter pilots or other size pilots and grinding wheels can be substituted for standard equipment items.

## SELF EXPANDING PILOTS

Part No.	Pilot Size	Lgth.	Price	Part No.	Pilot Size	Lgth.	Price	Part No.	Pilot Size	Lgth.	Price
P95	¼	4½		P85	⅜	6		P8255	6½MM	4½	
P95S	¼	3¾		P85S	⅜	4½		P8275	7MM	4½	
P96	⅜	4½		P97R	.397	5½		P8295	7½MM	5½	
P96S	⅜	3¾		P97	1½	6		P8315	8MM	5½	
P83	⅝	5½		P86	⅝	6¼		P8334	8½MM	5½	
P83S	⅝	4½		P86M	⅝	7½		P8354	9MM	5½	
P83L	⅝	6¼		P86L	⅝	8½		P8374	9½MM	6	
P84	1½	5½		P86S	⅝	5½		P8393	10MM	6	
P84S	1½	4½		P87	⅝	6¼		P8820	.820	4¾	
P84L	1½	6¼		P8236	6MM	4½					

Grinding Wheels and Pilots listed are those that may be required to service small engines. See Seat Grinder Catalog Form SG for complete listing.

## VALVE SEAT GRINDING WHEELS

K-O Wheels with 11/16" S.A.E. threads can be used on K-O Holder No. P191, or holders having a 9/16" threaded end made by other manufacturers, by using a No. P190B Bushing (9/16" to 11/16"). This bushing is furnished no charge to purchasers of K-O Wheels.

### GENERAL PURPOSE

No.	Diam.	Price
P224*	⅞"	2.60
P225*	1½"	2.60
P226*	1 "	2.60
P227*	1 ⅛"	2.40
P228*	1 ⅜"	2.40
P229*	1 ⅝"	2.40
P231	1 ¼"	2.40
P232	1 ⅝"	2.40
P233	1 ⅜"	2.40
P234	1 ⅝"	2.40

### ROUGHING WHEELS

No.	Diam.	Price
P224R*	⅞"	2.60
P225R*	1½"	2.60
P226R*	1 "	2.60
P227R*	1 ⅛"	2.40
P228R*	1 ⅜"	2.40
P229R*	1 ⅝"	2.40
P231R	1 ¼"	2.40
P232R	1 ⅝"	2.40
P233R	1 ⅜"	2.40
P234R	1 ⅝"	2.40

### FINISHING WHEELS

No.	Diam.	Price
P224F*	⅞"	2.60
P225F*	1½"	2.60
P226F*	1 "	2.60
P227F*	1 ⅛"	2.40
P228F*	1 ⅜"	2.40
P229F*	1 ⅝"	2.40
P231F	1 ¼"	2.40
P232F	1 ⅝"	2.40
P233F	1 ⅜"	2.40
P234F	1 ⅝"	2.40

\*Wheels have ⅝"—16 thd. All other K-O Wheels have ⅝"—16 thd. Wheels P224, P225, P226, P227, P228 and P229 are designed for small engine service. P398 ⅝" hex socket ⅝" threaded end or P399 ⅝" hex socket ⅝" threaded end wheel holders are small diameter and will follow wheel into valve recess.

## Grinding Wheel Holders

P191 4" Long, ⅜" Hex Soc.,  
⅝" Threaded End. Standard.  
P398 4" Long, ⅝" Small Dia.,  
⅝" Hex Soc., ⅝" Threaded  
End Available Extra Cost.



## P372 Dresser

The swivel is  
graduated with  
positive stops for  
0, 15, 30, 45, 60,  
75 & 90 degrees.

# K.O. Lee Company, Aberdeen, S.D.



# K.O. Lee

## Connecting Rod Aligners

### FEATURES

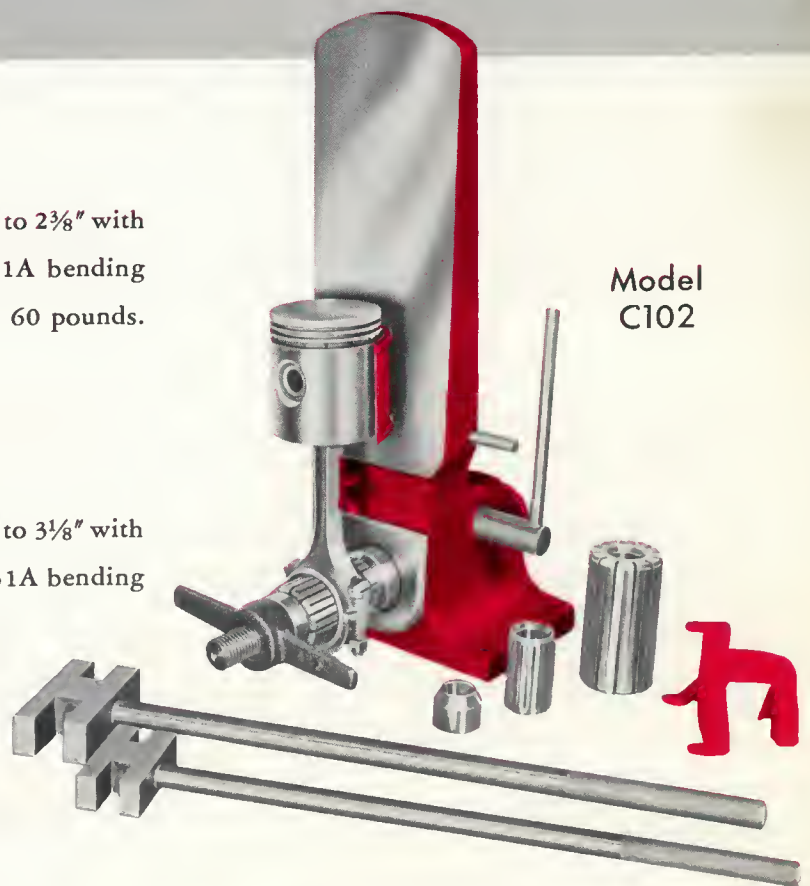
- MODERN DESIGN
- SIMPLE TO USE
- NO LONG SETUPS OR REMOVALS
- FULL-BEARING EXPANDING SLEEVES
- STURDY BENDING BARS
- HEAVY, WELL-BALANCED RIBBED BASE
- LIFETIME CONSTRUCTION
- CHECK FOR BEND, TWIST AND OFFSET WITH ONE SETTING

Available in seven different models with a wide choice of style, size or capacity. The K.O. Lee line of connecting rod aligners includes two vertical and five horizontal models. All models feature the exclusive "K. O. Lee" Qualities.

### VERTICAL CONNECTING ROD ALIGNERS

**Model C101** Rod bearing range is  $1\frac{1}{2}$ " to  $2\frac{3}{8}$ " with C26A and C28 expanding sleeves. The C31A bending bar has  $\frac{1}{2}$ " and  $\frac{5}{8}$ " openings. Net weight is 60 pounds. Shipping weight is 72 pounds.

**Model C102** Rod bearing range is  $1\frac{1}{2}$ " to  $3\frac{3}{8}$ " with C26A, C27A and C28 expanding sleeves. C31A bending bar has  $\frac{1}{2}$ " and  $\frac{5}{8}$ " openings and the C31B bending bar has  $\frac{3}{4}$ " and  $\frac{7}{8}$ " openings. Net weight is 68 pounds. Shipping weight is 80 pounds.



**K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA**

VALVE REFACERS • VALVE SEAT GRINDER SETS • RESEATER SETS  
VALVE SEAT INSERT RINGS • ROD ALIGNERS • STUD WRENCHES  
WHEEL DRESSERS • VALVE GUIDES • VALVE GUIDE REAMING TOOLS

# HORIZONTAL CONNECTING ROD ALIGNERS

Model C3



## **Model C3**

Rod bearing range is  $1\frac{1}{2}$ " to  $4\frac{1}{4}$ " with C26A, C27A, C28 and C46 expanding sleeves. Equipped with three bending bars. The C31A bending bar has  $\frac{1}{2}$ " and  $\frac{5}{8}$ " openings. C31B bending bar has  $\frac{13}{16}$ " and  $\frac{15}{16}$ " openings. Large C33 bending bar has a maximum opening of  $1\frac{7}{16}$ ". Large C12 base is  $7" \times 27" \times 5"$ . Complete with checking gauge and checking "V". Net weight 135 pounds. Shipping weight 162 pounds.

## **Model C1**

Rod bearing range is  $1\frac{1}{2}$ " to  $2\frac{3}{8}$ " with C26A and C28 expanding sleeves. One bending bar, C31A with  $\frac{1}{2}$ " and  $\frac{5}{8}$ " openings. Complete with checking gauge and checking "V". C11 base is  $5\text{-}1/16" \times 21" \times 3\frac{3}{4}"$ . Net weight 42 pounds. Shipping weight 46 pounds.

## **Model C1L**

Rod bearing range is  $1\frac{1}{2}$ " to  $2\frac{3}{8}$ ". Identical to C1 rod aligner only C12 base ( $7" \times 27" \times 5"$ ) is supplied. Net weight 94 pounds. Shipping weight 121 pounds.

## **Model C2**

Rod bearing range is  $1\frac{1}{2}$ " to  $3\frac{1}{8}$ " with C26A, C27A and C28 expanding sleeves. Two bending bars, C31A with  $\frac{1}{2}$ " and  $\frac{5}{8}$ " openings and C31B with  $\frac{13}{16}$ " and  $\frac{15}{16}$ " openings. Checking gauge and "V". Net weight 51 pounds. Shipping weight 55 pounds.

## **Model C2L**

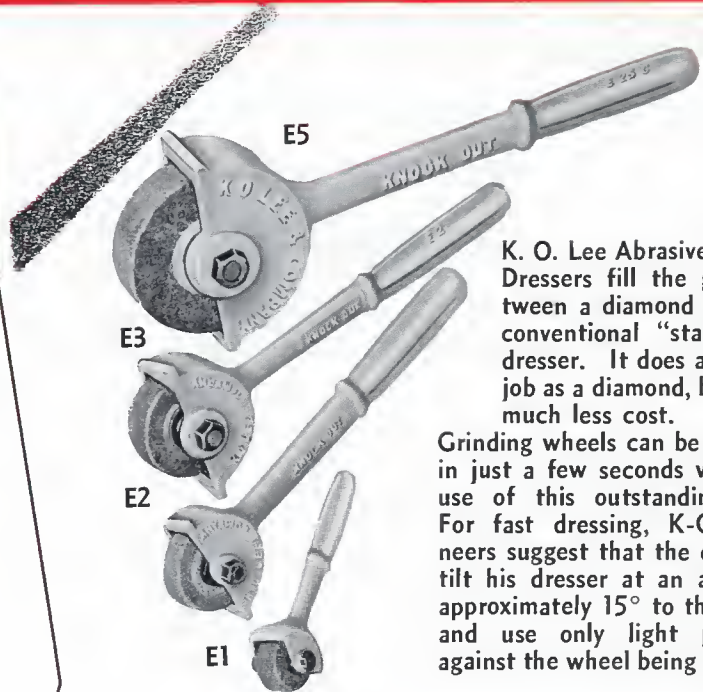
Rod bearing range is  $1\frac{1}{2}$ " to  $3\frac{1}{8}$ ". Identical to C2 rod aligner only large C12 base ( $7" \times 27" \times 5"$ ) is supplied. Net weight 103 pounds. Shipping weight 113 pounds.



# Abrasive Wheel Dressers

**RING UP EXTRA  
SALES, EXTRA  
PROFITS!**

**Special  
NEW  
LOW  
PRICE!**



K. O. Lee Abrasive Wheel Dressers fill the gap between a diamond and the conventional "star" type dresser. It does as fine a job as a diamond, but with much less cost.

Grinding wheels can be dressed in just a few seconds with the use of this outstanding tool. For fast dressing, K-O Engineers suggest that the operator tilt his dresser at an angle of approximately 15° to the wheel and use only light pressure against the wheel being dressed.

## New Low Price

**E1 DRESSER** WAS \$3.30 **\$2.45**

1½" x 6", FOR WHEELS UP TO 6" DIAMETER, WT. ¾ LB.

**E2 DRESSER** WAS \$6.50 **\$5.10**

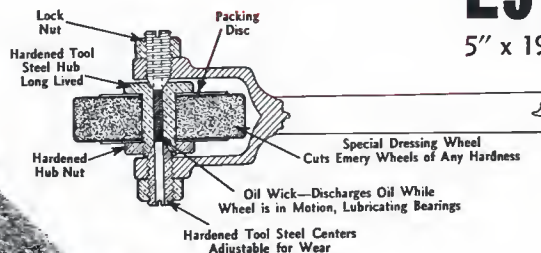
2½" x 12", FOR WHEELS UP TO 10" DIAMETER, WT. 2 LBS.

**E3 DRESSER** WAS \$7.75 **\$7.15**

3" x 13", FOR WHEELS 8" TO 12" DIAMETER, WT. 3½ LBS.

**E5 DRESSER** WAS \$14.25 **\$12.40**

5" x 19", FOR WHEELS OVER 12" DIAMETER, WT. 8½ LBS.



**PROMPT  
DELIVERY!**

## PARTS LIST REPLACEMENT WHEELS

E1G	1½" x ¾" x ¾"	1.25	E3G	3" x 1" x ¾"	2.25
E2G	2½" x ¾" x ½"	1.60	E5G	5" x 1¼" x ¾"	5.50

Dresser Numbers→	E1	E2	E3	E5
Hub .....	E1H .50	E2H 1.20	E3H 2.00	E5H 2.20
Hub Nut .....	E1N .15	E2N .45	E3N .45	E5N .55
Center Screws (2) ea.	E1S .30	E2S .55	E3S .55	E5S .75
Wick .....	E1F .10	E2F .10	E3F .10	E5F .10
Lock Nut .....	.15	.15	.15	.15
Casting (Handle) .....	E1C .70	E2C 2.20	E3C 2.70	E5C 3.70
Copper Washer (2) ....	E1W .10			

*K. O. Lee Company, Aberdeen, S.D.*

# "K. O. Lee" REAMERS

## Precision PILOT REAMERS

With Double Taper Counter Sunk  
Pilot Bushings

*For perfect alignment-*

REAM THE *Precision Pilot Way*

Spring Shackle Bushings  
Water Pump Bushings  
Pitman Arm Bushings  
Piston Pin Bushings  
King Bolt Bushings  
Tie Rod Bushings

K. O. Lee Precision Pilot  
Reamers are inexpensive  
and quickly pay for  
themselves in time  
saved and quality  
of results.

**Shear Cutting  
Precision Pilot  
Positive Setting**



SET NO. H17

### REAMER SETS

Precision Pilot Bushing guides front—parallel  
blades guide back assuring perfect alignment  
Blades set at correct angle to shear cut, elim-  
inate chatter, give perfect finish. Easily ad-  
justed, they stay parallel and hold size.  
Reamers sizes overlap—complete set of 16  
covers full range  $\frac{1}{16}$ " to  $1\frac{1}{4}$ "

#### Reamer Set H16

(4 reamers H1 to H4) range  $\frac{1}{16}$ " to  $\frac{1}{4}$ "

#### Reamer Set H17

(7 reamers H5 to H11) range  $\frac{1}{4}$ " to  $1\frac{1}{4}$ "

### Valve Guide Reamers

#### SOLID TYPE H1000 SERIES

Number	Size	Number	Size	Number	Size
H1236	6MM	H1334	8½MM	H1393	10MM
H1250	¼"	H1343	½"	H1397	.397"
H1255	6½MM	H1353	½" + .010	H1406	½"
H1275	7MM	H1363	½" + .020	H1437	¾"
H1281	¾"	H1354	9MM	H1472	12MM
H1295	7½MM	H1373	¾" — .002	H1500	½"
H1312	¾"	H1374	9½MM	H1625	5/8"
H1315	8MM	H1375	¾"		

## INDIVIDUAL REAMERS AND REPAIR PARTS LIST

Reamer No.	Capacity Size	Reamer Length	Blades Overall	No. of Blades	Complete Each	Part No.	Blades Set	Part No.	Nuts Each	Part No.	Collars Each	Part No.	Bush. Each
H1	$\frac{1}{16}$ " — $\frac{1}{2}$ "	9¼"	2"	5		HR201A	2.25	HR249	.45	HR302	.30	HR365	1.40
H2	$\frac{1}{2}$ " — $\frac{3}{8}$ "	9¼"	2"	6		HR201B	2.70	HR250	.45	HR303	.30	HR366	1.40
H3	$\frac{3}{8}$ " — $\frac{5}{8}$ "	9¼"	2"	6		HR201C	2.70	HR227	.45	HR277	.30	HR367	1.40
H4	$\frac{5}{8}$ " — $1\frac{1}{8}$ "	9¼"	2"	7		HR201D	3.10	HR228	.45	HR278	.30	HR368	1.40
H5	$1\frac{1}{8}$ " — $\frac{3}{4}$ "	12¼"	2"	7	SEE AP. 100 PRICE LIST FOR CURRENT PRICES	HR201E	3.10	HR229	.45	HR279	.30	HR369	1.40
*H6	.730" — $\frac{1}{4}$ "	12¼"	2"	7		HR207A	3.50	HR230	.45	HR280	.30	HR370	1.40
H7	$\frac{1}{4}$ " — $\frac{7}{8}$ "	12¼"	2"	7		HR207B	3.50	HR231	.45	HR281	.30	HR371	1.50
*H8	.860" — $\frac{1}{2}$ "	12¼"	2"	7		HR207C	3.50	HR232	.45	HR282	.30	HR372	1.60
*H9	.915" — 1 "	12¼"	2"	7		HR207D	3.50	HR233	.45	HR283	.30	HR373	1.75
*H10	.985" — $\frac{1}{4}$ "	12¼"	2"	7		HR207E	3.50	HR251	.45	HR304	.30	HR374	1.90
H11	1 ¼" — 1 ½"	12¼"	2"	7		HR207F	3.50	HR252	.45	HR305	.30	HR375	1.95
H12	1 ½" — 1 ¾"	13 "	3"	7		HR208A	3.85	HR234	.60	HR284	.35	HR376	2.20
H13	1 ¾" — 1 ¾"	13 "	3"	7		HR208B	4.25	HR235	.60	HR285	.35	HR377	2.70
H14	1 ¾" — 1 ½"	13 "	3"	7		HR208C	5.00	HR236	.75	HR286	.45	HR378	3.30
H15	1 ½" — 1 ¾"	13 "	3"	7		HR208D	5.40	HR237	.85	HR287	.55	HR379	3.70
H15A	1 ¾" — 1 ¾"	15 "	3"	7		HR208E	6.90	HR253	1.25	HR306	.80	HR380	4.40
H15B	1 ¾" — 2 ¼"	19 ¾"	3"	7		HR208F	7.70	HR254	1.25	HR307	.80	HR381	4.40

\*H6 reams Chev. King Bolt Bushing .735". \*H8 reams Chev. 6 Piston Pin Bushing .866". \*H9 reams Chev. 6 Truck King Bolt Bushing .922". \*H10 reams Chev. 6 Piston Pin Bushing .991".  
REAMER BOX: No. 18B reamer box has space for eleven reamers varying in size from H1 to H15A.

### RESHARPENING CHARGES FOR REAMERS CARBON STEEL

Adjustable and Solid Type, Our Make, to 1/2" inclusive	\$2.00
Adjustable and Solid Type, Our Make, above 1/2" to 1-1/2" inclusive	2.50
Adjustable and Solid Type, Our Make, above 1-1/2" inclusive	3.00

**K. O. LEE COMPANY, ABERDEEN, SO. DAKOTA**



"K. O. Lee"

# Expanding Mandrels

Perfected for: • MILLING

• TURNING

• GRINDING



A time-tested tool for grinding, turning and milling operations on the production line, in the tool room, maintenance, repair or home work shop. "K. O. Lee" Expanding mandrels will hold work from thin sleeves and bushings to heavy castings and forgings. Sizes to fit  $\frac{3}{8}$  to  $5\frac{1}{2}$  inch hole.

## AVAILABLE IN TWO SERIES

**GENERAL PURPOSE SERIES** Five mandrels with range from  $\frac{3}{8}$  to  $2\frac{1}{2}$  inch hole. Recommended for tool room, home shop and light production work.

**HEAVY-DUTY SERIES** Range from  $1\frac{1}{16}$  to  $5\frac{1}{2}$  inch hole. Recommended for production line operations including heavy roughing cuts.

## FEATURES

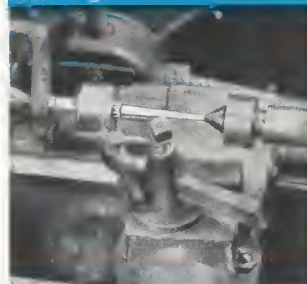
**LARGE BEARING SURFACE** on all sleeves provides a positive grip on heavy jobs . . . prevents slip and chatter and holds thin sleeves and bushings without distortion. Work can be held in any position on sleeve and may overhang either or both ends for facing operations.

**PRECISION GROUND** arbors and sleeves provide accuracy of .001 inch or better. Large bearing surfaces minimize wear.

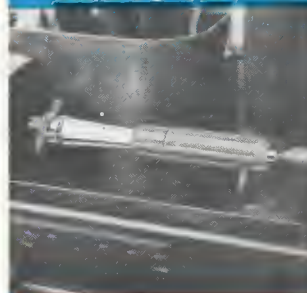
**AUXILIARY CENTERS** (right end of above illustration) are a "K. O. Lee" feature which provide: large bearing surface, oil reservoir, prevent damage to arbor center, prolong arbor life and are inexpensive to replace.



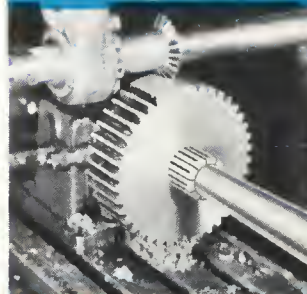
Production turning 45° on 11 lb casting held on M46 Expanding Mandrel



Turning small piece in tool room 1 D 15 32 held on MO Expanding Mandrel.

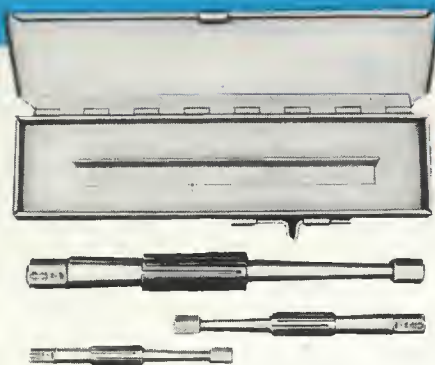


Grinding 45° angle holding .001 concentricity. Using M3 Expanding Mandrel



Milling Gear held on "K. O. Lee" Expanding Mandrel Ideal for Tool Room use.

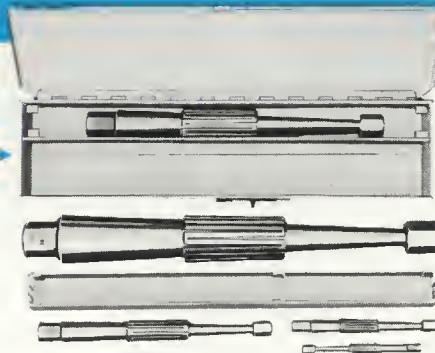
# FOR REPAIR SHOP • TOOL ROOM • PRODUCTION



## MANDREL SETS

M90

M101



All "LEE" Expanding Mandrel Sets are packed in sturdy, Silvergray Hammerlaid finish metal boxes to protect them from damage and loss.

## YOU CAN GET "K. O. Lee" EXPANDING MANDRELS SINGLY OR IN SETS

There is a "K. O. Lee" Expanding Mandrel Set for every shop. General Purpose and Heavy Duty Mandrel sets cover a wide range of hole size and are ideal for tool room, maintenance and repair shop, and job shop. Any Expanding Mandrel may be purchased separately for production operations. A full set of "K. O. Lee" Expanding Mandrels will eliminate making and stocking straight arbors for every job.

### "K. O. LEE" EXPANDING MANDREL SETS GENERAL PURPOSE

- M90 Three smallest general purpose mandrels—M0, M1, M2 and M201B Box—range  $\frac{3}{8}$ " to 1"—shipping wt. 3 lbs.  
 M100 Four general purpose mandrels—M0, M1, M2, M3 and M101B Box—range  $\frac{3}{8}$ " to 1 $\frac{1}{4}$ "—shipping wt. 9 lbs.  
 M100W Same as M100 less auxiliary centers  
 M100X Three general purpose mandrels—M1, M2, M3 and M201B Box—range  $\frac{1}{2}$ " to 1 $\frac{1}{4}$ "—shipping wt. 9 lbs.  
 M101 Largest general purpose set—M0, M1, M2, M3, M4 and M101B Box—range  $\frac{3}{8}$ " to 2 $\frac{1}{2}$ "—shipping wt. 18 lbs.  
 M101W Same as M101 less auxiliary centers

### HEAVY DUTY

- M200 Four mandrels; two heavy duty—M0, M1, M25, M26 and M201B Box—range  $\frac{3}{8}$ " to 1"—shipping wt. 4 lbs.  
 M200W Same as M200 less auxiliary centers  
 M200X Four mandrels; two heavy duty—M1, M2, M35, M36 and M101B Box—range  $\frac{1}{2}$ " to 1 $\frac{1}{4}$ "—shipping wt. 12 lbs.  
 M201 Two heavy duty mandrels—M35, M36 and M201B Box—range 1" to 1 $\frac{1}{4}$ "—shipping wt. 8 lbs.  
 M201W Same as M201 less auxiliary centers  
 M202 Two heavy duty mandrels—M45, M46 and M101B Box—range 1 $\frac{1}{4}$ " to 2 $\frac{1}{2}$ "—shipping wt. 21 lbs.  
 M202W Same as M202 less auxiliary centers

### MANDREL BOXES

- M201B Box for sets M90-M200-M200W-M201-M201W-M100X  
 M101B Box for sets M100-M101-M100W-M101W-M202-M202W-M200X

## SPECIFICATIONS OF "K. O. Lee" EXPANDING MANDRELS

	COMPLETE MANDRELS				ARBORS ONLY					SLEEVES ONLY				AUXILIARY CENTERS	
	NO.	RANGE INCHES	WEIGHT POUNDS	PRICE	NO.	LENGTH INCHES	TAPER PER FT.	WEIGHT POUNDS	PRICE	NO.	LENGTH INCHES	WEIGHT POUNDS	PRICE	NO.	PRICE
GENERAL PURPOSE	M0	$\frac{3}{8}$ to $\frac{1}{2}$	$\frac{3}{16}$		M0A	4 $\frac{1}{2}$	$\frac{5}{8}$ "	$\frac{1}{8}$		M0S	1 $\frac{1}{4}$	$\frac{1}{32}$		M0AC	
	M1	$\frac{1}{2}$ to $\frac{11}{16}$	$\frac{3}{8}$		M1A	5 $\frac{3}{4}$	.775"	$\frac{1}{4}$		M1S	1 $\frac{1}{2}$	$\frac{1}{16}$		M1AC	
	M2	$\frac{11}{16}$ to 1	1		M2A	9 $\frac{1}{4}$	$\frac{3}{4}$ "	$\frac{3}{4}$		M2S	2 $\frac{1}{2}$	$\frac{1}{8}$		M2AC	
	M3	1 to 1 $\frac{9}{16}$	2 $\frac{3}{4}$		M3A	12 $\frac{1}{4}$	1 $\frac{5}{16}$ "	2 $\frac{1}{4}$		M3S	3	$\frac{3}{8}$		M3AC	
	M4	1 $\frac{9}{16}$ to 2 $\frac{1}{2}$	9		M4A	16 $\frac{3}{4}$	1 $\frac{1}{8}$ "	7 $\frac{1}{2}$		M4S	4 $\frac{1}{4}$	1 $\frac{1}{4}$		M4AC	
HEAVY DUTY MANDRELS	M25	$\frac{11}{16}$ to $\frac{27}{32}$	$\frac{3}{4}$		M25A	8	$\frac{1}{2}$ "	$\frac{1}{2}$		M25S	2 $\frac{1}{4}$	$\frac{1}{8}$		M25AC	
	M26	$\frac{27}{32}$ to 1	1 $\frac{1}{8}$		M26A	8 $\frac{1}{4}$	$\frac{1}{2}$ "	$\frac{3}{4}$		M26S	2 $\frac{1}{2}$	$\frac{9}{16}$		M26AC	
	M35	1 to 1 $\frac{9}{32}$	2 $\frac{3}{4}$		M35A	12 $\frac{1}{4}$	$\frac{1}{2}$ "	2		M35S	3 $\frac{1}{4}$	$\frac{1}{4}$		M35AC	
	M36	1 $\frac{9}{32}$ to 1 $\frac{9}{16}$	4		M36A	12 $\frac{1}{4}$	$\frac{1}{2}$ "	2 $\frac{3}{4}$		M36S	3 $\frac{1}{4}$	$\frac{9}{16}$		M36AC	
	M45	1 $\frac{9}{16}$ to 2 $\frac{1}{32}$	6 $\frac{3}{4}$		M45A	15 $\frac{1}{2}$	$\frac{5}{8}$ "	5 $\frac{1}{4}$		M45S	4 $\frac{1}{4}$	1 $\frac{3}{16}$		M45AC	
	M46	2 $\frac{1}{32}$ to 2 $\frac{1}{2}$	16 $\frac{3}{4}$		M46A	15 $\frac{1}{2}$	$\frac{5}{8}$ "	8 $\frac{3}{4}$		M46S	4 $\frac{1}{4}$	1 $\frac{1}{2}$		M46AC	
	M5B	2 $\frac{1}{2}$ to 3 $\frac{1}{4}$	17 $\frac{1}{4}$		M5A	17 $\frac{3}{4}$	1 $\frac{1}{8}$ "	12 $\frac{1}{4}$		M5S	7	5		M5AC	
	M5C	3 $\frac{1}{4}$ to 4	30 $\frac{1}{4}$		M5-6A	18	1 $\frac{1}{8}$ "	25 $\frac{1}{4}$		M5S	7	5			
	M55	3 $\frac{1}{4}$ to 4 $\frac{3}{4}$	42 $\frac{1}{4}$		M5-6A	18	1 $\frac{1}{8}$ "	25 $\frac{1}{4}$		M5S	7	5		M6SC	
	M6B	4 to 4 $\frac{3}{4}$	38		M5-6A	18	1 $\frac{1}{8}$ "	25 $\frac{1}{4}$		M6S	7	12		M6SC**	
	M6C	4 $\frac{3}{4}$ to 5 $\frac{1}{2}$	53		M6A	18 $\frac{1}{4}$	1 $\frac{1}{8}$ "	40		M6S	7	12		M6SC**	
	M5	2 $\frac{1}{2}$ to 4	42 $\frac{1}{2}$		M5A	17 $\frac{3}{4}$		37 $\frac{1}{2}$		M5S	7	5		M5AC	
	M6	4 to 5 $\frac{1}{2}$	78		M5-6A	18		65 $\frac{1}{4}$		M6S	7	12		M6SC**	
	M7	2 $\frac{1}{2}$ to 5 $\frac{1}{2}$	94 $\frac{1}{2}$		M5A	17 $\frac{3}{4}$		77 $\frac{1}{2}$		M5S	7	5		M6SC	
					M5-6A	18				M6S	7	12		M5AC	

\*\*M6SC is a clamp for compressing sleeve M6S.

INSTRUCTIONS: If an auxiliary center sticks on the arbor, use a wrench to loosen it; don't hammer it loose! Oiling the hole of the auxiliary center will help to alleviate this difficulty.



## Applies to All Lee Equipment and Tools Except Tool and Cutter Grinders

Prices On Small Parts Not Listed Can Be Found In Price List MPL-100

**Prices Effective November 1, 1964**

All Prices Subject to Change Without Notice — Typographical Errors Subject to Price Correction



**K. O. Lee Company - Aberdeen, S. D.**

Part No.	Description	List Price	Part No.	Description	List Price	Part No.	Description	List Price	Part No.	Description	List Price	
A14	Switch Replaced by 8295K7 Switch	2.20	C1L	Rod Aligner	140.00	VALVE GUIDE DRIVERS			H2364	11/32 + .020	4.60	
A32	Wheel	1.80	C2	Rod Aligner	143.00	All Sizes			2.00	H2374	Reamer	4.60
A36	Spec. Wheel	2.50	C2L	Rod Aligner	165.00	ADJ. PILOT REAMERS			H2376	Reamer	4.60	
A37	Spec. Wheel	1.80	C3	Rod Aligner	208.00	H1 Reamer			8.00	H2377	Reamer	4.60
A173	Dia. Nib	6.30	C11	Base	37.00	H2 Reamer			8.20	H2384	Reamer	4.60
A269D	Dia. Sc.		C12	Base	63.00	H3 Reamer			8.40	H2388	Reamer	4.60
	10-32 Thread	4.20	C21	Cone	11.00	H4 Reamer			8.70	H2389	Reamer	4.60
A450	Drill Chuck	9.50	C25	Wrench	1.80	H5 Reamer			9.00	H2394	Reamer	4.60
A451	Arbor	2.60	C26A	Sleeve	14.50	H6 Reamer			9.40	H2403	Reamer	4.60
A451B	Adapter	1.80	C27A	Sleeve	26.25	H7 Reamer			9.70	H2404	Reamer	4.60
A451P	Adapter	2.40	C28	Sleeve	20.00	H8 Reamer			10.00	H2441	Reamer	4.60
A451T	Adapter	1.30	C28C	Sleeve	6.50	H9 Reamer			10.40	H2453	Reamer	4.60
A452	Arbor	2.60				H10 Reamer			10.80	H2468	7/16 + .030	4.60
A452B	Adapter	1.80	C29	Nut	.95	H11 Reamer			11.20			
			C30	Arbor	23.00	H12 Reamer			12.95	H3437	Fin. Reamer	5.00
A452S	Arbor	2.60	C31A	Bar	5.00	H13 Reamer			14.45	H3500	Fin. Reamer	5.00
A452T	Adapter	1.30	C31B	Bar	6.30					H3625	Fin. Reamer	5.00
A453	Adapter	2.60	C32	Cone	2.10							
A453B	Adapter	1.80	C33	Bar	9.80					Reamers Below are HSS		
A453S	Arbor	2.60	C34	Cone	2.70					H7437	Fin. Reamer	13.50
A453T	Adapter	1.30	C37	Clamp	6.75					H7500	Fin. Reamer	13.50
A454S	Arbor	2.60	C41	Assembly	16.80					H7625	Fin. Reamer	13.50
A455S	Arbor	3.30	C41H	Nut	1.50					H8432	Rgb. Ream.	15.50
A456	Drill Chuck	9.50	C42	Cone	6.30					H8494	Rgb. Ream.	15.50
A458B	Arbor	4.00	C44	Wrench	2.40					H8619	Rgb. Ream.	15.50
A458D	Arbor	4.00	C46	Sleeve	40.00							
A459	Drill Chuck	9.50								K37	Holder	4.10
A460	Drill Chuck	13.00								K43C	Collet	15.00
A461	Arbor	2.60								K43CL	Collet	15.00
A461B	Adapter	1.80								K43CS	Collet	15.00
										K43D	Collet	15.00
A461T	Adapter	1.30								K43E	Collet	15.00
A462	Arbor	2.60								K232	Assembly	23.00
A462B	Adapter	1.80										
A462S	Arbor	2.60								K403C	Refacer	415.00
A462T	Adapter	1.30									1/3 H.P., 115V, Single Phase, 60 Cycle, with- out Butt Grinder.	
A463	Arbor	2.60								K403D	Refacer	415.00
A463B	Adapter	1.80									1/3 H.P., 230V, Single Phase, 60 Cycle, with- out Butt Grinder.	
A463S	Arbor	2.60										
A463T	Adapter	1.80										
A464S	Arbor	2.60										
A464T	Adapter	1.30										
A465S	Arbor	3.30										
A467B	Adapter	1.80										
A468B	Arbor	4.00										
A468D	Arbor	4.00										
A470	Chuck	21.00										
A480	Chuck	23.00										
A481	Arbor	4.00										
A482	Arbor	2.40										
A482B	Adapter	2.40										
A482P	Adapter	3.30										
A482S	Arbor	3.30										
A482T	Adapter	4.00										
A483	Arbor	4.00										
A483B	Adapter	2.40										
A483S	Arbor	3.30										
A483T	Adapter	2.00										
A484	Arbor	4.60										
A484S	Arbor	3.30										
A484T	Adapter	2.00										
A485B	Adapter	2.40										
A485S	Arbor	3.75										
A485T	Adapter	2.00										
A486B	Adapter	2.40										
A486S	Arbor	3.75										
A486T	Adapter	2.00										
A487B	Adapter	2.40										
A487S	Arbor	3.75										
A488D	Arbor	5.40										
A488F	Arbor	8.00										
A488G	Arbor	9.40										
A488H	Arbor	13.00										
A490	Drill Chuck	29.00										
A492	Arbor	5.40										
A493	Arbor	5.40										
A493B	Adapter	2.60										
A493T	Adapter	2.60										
A494	Arbor	5.40										
A494B	Adapter	2.60										
A494T	Adapter	2.60										
A495	Arbor	6.60										
A495B	Adapter	2.60										
A495S	Arbor	5.40										
A495T	Adapter	2.60										
A496S	Arbor	5.40										
A497S	Arbor	8.00										
A498F	Arbor	8.00										
A498G	Arbor	9.40										
A498H	Arbor	13.00										
C1	Rod Aligner	118.00										

÷ Items are obsolete and may not be in stock.

▲ New Item



Part No.	Description	List Price	Part No.	Description	List Price	Part No.	Description	List Price	Part No.	Description	List Price	
OV5GH60W	Wheel	5.25	P190B	Bushing	NC	P277F	Washer	.55	R34	Spac. Collar	.20	
OV5GH180W	Wheel	5.25	P190W	Washer	.15	P277H	Holder	1.35	R38	Two Washers	.20	
OV5GH80S	Wheel	5.50	P191	Holder	7.80	P278	Holder	3.15	R40	Washer	.65	
For Stellite Face Valves.			Exchange with			P280	Attachment	29.46	R41	Extension	.56	
FOR K103A, K303, K403, K103C, K500 & K500C Series			Used Holder			P286B	Blade Set	.50	R41N	Nut	.25	
OV5GH60	Wheel	5.25	P191W	Washer	.15	P287	Cleaner	1.90	R42	Extension	.50	
OV5GH80	Wheel FOR		P196X	Wh. Holder	15.30	P287B	Blade Set	.65	R43	Extension	.50	
A1, A2, K3, K3A, K103		5.25	Exchange with			P288	Cleaner	2.66	R44	Extension	.56	
OV6FH60	Wheel	5.10	Used Holder			P289B	Blade Set	.75	R45	Extension	.56	
FOR K. O. Lee A4, A5, Van Norman "Z" Series			P197X	Wh. Holder	15.30	P290	Cleaner	2.66	R46	Extension	.56	
P61	Pilot Wrench	4.90	Exchange with			P290B	Blade Set	.85	R47	Pilot Wrench	.45	
SELF EXPANDING PILOTS			Used Holder			P291	Cleaner	2.60	R55B	Pwr. Drive	95.00	
P83	Pilot	6.00	P198X	Wh. Holder	15.30	P300	Grinder Set	149.50	R56	Wrench	.20	
P83L	Pilot	6.50	Exchange with			P300BB	Grd. Set	157.00	R59 Wrench 3.15			
P83R	Pilot	6.50	Used Holder			P301	Grinder Set	189.50	R62	Drive Pin	.35	
P83RL	Pilot	6.50	P199X	Wh. Holder	15.30	P301BB	Crld. Set	197.00	R63	Socket	3.60	
P83S	Pilot	6.00	Exchange with			P302	Grinder Set	239.50	R63L	Socket	3.60	
P84	Pilot	6.00	Used Holder			P302BB	Grd. Set	246.00	R65	Sc. Fd. At.	12.00	
P84L	Pilot	6.50	P200B	Box & Dr.	24.00	P350	Indicator	31.50	R67	Feed Screw	3.80	
P84M	Pilot	6.00	P200BB	Box	16.00	P360	Angle Drive	20.00	R67S	Feed Screw	3.80	
P84R	Pilot	6.50	P202	Crinder Set	165.00	P361	Wrench	6.30	R68	Stop Collar	1.80	
P84RL	Pilot	6.50	P214	Switch replaced by		P372	Wh. Dresser	48.00	R69	Stop Collar	2.10	
P84S	Pilot	6.00	P2591N	Switch	2.40	P378	Pilot Assem.	4.40	R70	Coupling	1.30	
P85	Pilot	6.00	P215A	Shaft	2.00	P390	Wh. Holder	7.80	R70B	Drive Bar	.55	
P85F	Pilot	6.00	P215B	Shaft	2.00	Exchange with			R87	Clincher	2.80	
P85L	Pilot	6.50	P217	Chuck	2.90	Used Holder			R88	Clincher	2.80	
P85R	Pilot	6.50	P220	Terminal	4.20	P391	Wh. Holder	7.80	R95	Ring Extrac.	2.80	
P85RL	Pilot	6.50	P223	Terminal	4.20	Exchange with			R96	Clamp Rod	.65	
P85S	Pilot	6.00	VALVE SEAT GRINDING WHEELS			Used Holder			RESEATER CUTTERS			
P86	Pilot	6.00	Gen. Finish Rough- ing Each			P398	Wh. Holder	6.50	R98	3.50	R110	3.50
P86L	Pilot	9.50	Pur. ing ing Each			P399	Wh. Holder	6.50	R99	3.50	R111	3.50
P86M	Pilot	8.50	*P224 *P224F *P224R 2.60			P400	Crld. Set	126.00	R100	3.50	R112	3.50
P86RM	Pilot	6.50	*P225 *P225F *P225R 2.60			P422	Util. Driver	72.00	R101	3.50	R113	4.10
P86S	Pilot	8.50	*P226 *P226F *P226R 2.60			P422	Util. Driver	72.00	R102	3.50	R114	4.10
P87	Pilot	6.00	*P227 *P227F *P227R 2.40			P422	Util. Driver	72.00	R103	3.50	R115	4.10
P87L	Pilot	9.50	*P228 *P228F *P228R 2.40			P422	Util. Driver	72.00	R104	3.50	R116	4.10
P87M	Pilot	8.50	*P229 *P229F *P229R 2.40			P422	Util. Driver	72.00	R105	3.50	R117	4.10
P87S	Pilot	8.50	*P231 *P231F *P231R 2.40			P422	Util. Driver	72.00	R106	3.50	R118	4.10
P88	Pilot	6.50	*P232 *P232F *P232R 2.40			P422	Util. Driver	72.00	R107	3.50	R119	4.10
P88L	Pilot	9.50	*P233 *P233F *P233R 2.40			P422	Util. Driver	72.00	R108	3.50	R120	4.10
P88M	Pilot	8.50	*P234 *P234F *P234R 2.40			P422	Util. Driver	72.00	R109	3.50		
P89	Pilot	6.50	*P235 *P235F *P235R 2.40			P422	Util. Driver	72.00	Special Carbide Tipped Cutters, each 10.00			
P90	Pilot	6.00	*P236 *P236F *P236R 2.40			P422	Util. Driver	72.00	RESEATER PILOTS			
P91	Pilot	6.50	*P237 *P237F *P237R 2.40			P422	Util. Driver	72.00	R208	Pilot	3.50	
P91L	Pilot	7.00	*P238 *P238F *P238R 2.40			P422	Util. Driver	72.00	R209	Pilot	3.50	
P92	Pilot	6.50	*P239 *P239F *P239R 2.40			P422	Util. Driver	72.00	R210	Pilot	3.50	
P93	Pilot	6.50	*P240 *P240F *P240R 2.40			P422	Util. Driver	72.00	R210M1	Pilot	3.50	
P94M	Pilot	8.50	*P241 *P241F *P241R 2.40			P422	Util. Driver	72.00	R210M2	Pilot	3.50	
P95	Pilot	6.50	*P242 *P242F *P242R 2.40			P422	Util. Driver	72.00	R210P1	Pilot	3.50	
P95L	Pilot	6.50	*P243 *P243F *P243R 2.40			P422	Util. Driver	72.00	R210P2	Pilot	3.50	
P95S	Pilot	6.00	*P244 *P244F *P244R 2.40			P422	Util. Driver	72.00	R210P3	Pilot	3.50	
P96	Pilot	6.50	*P245 *P245F *P245R 2.95			P422	Util. Driver	72.00	R210P15	Pilot	3.50	
P96L	Pilot	6.50	*P247 *P247F *P247R 2.95			P422	Util. Driver	72.00	R210P30	Pilot	3.50	
P96S	Pilot	6.00	*P251 *P251F *P251R 2.95			P422	Util. Driver	72.00	R211	Pilot	3.50	
P97	Pilot	6.50	*P255 *P255F *P255R 3.50			P422	Util. Driver	72.00	R211M1	Pilot	3.50	
P97L	Pilot	7.00	*P259 *P259F *P259R 3.50			P422	Util. Driver	72.00	R211M2	Pilot	3.50	
P97R	Pilot	6.50	*P261 *P261F *P261R 3.80			P422	Util. Driver	72.00	R211M3	Pilot	3.50	
P98	Pilot	9.50	*P263 *P263F *P263R 4.05			P422	Util. Driver	72.00	R211P1	Pilot	3.50	
P98L	Pilot	12.00	*P224, P225, P226, P227, P228 and P229 Wheels have 9/16"-16 thd. All other K. O. Lee Wheels have 11/16"-16 thd. P190B Adapter Bushing (11/16"-16 to 9/16"-16) furnished no charge.			P422	Util. Driver	72.00	R211P2	Pilot	3.50	
P99	Pilot	12.00	SEAT GRINDING WHEELS FOR KWIK-WAY			P422	Util. Driver	72.00	R211P5	Pilot	3.50	
PILOTS MM SIZES			Wheels have 13/16"-13 thd.			P422	Util. Driver	72.00	R211P15	Pilot	3.50	
P8236	6MM Pilot	6.50	P236K Wheel 2.80			P422	Util. Driver	72.00	R211P30	Pilot	3.50	
P8236S	6MM Pilot	6.50	P237K Wheel 2.80			P422	Util. Driver	72.00	R212	Pilot	3.50	
P8255	6½MM Pilot	6.50	P238K Wheel 2.80			P422	Util. Driver	72.00	R212M2	Pilot	3.50	
P8275	7MM Pilot	6.50	P239K Wheel 2.80			P422	Util. Driver	72.00	R212M4	Pilot	3.50	
P8295	7½MM Pilot	6.50	P240K Wheel 2.80			P422	Util. Driver	72.00	R212M6	Pilot	3.50	
P8315	8MM Pilot	6.50	P241K Wheel 2.80			P422	Util. Driver	72.00	R212P1	Pilot	3.50	
P8334	8½MM Pilot	6.50	P242K Wheel 2.80			P422	Util. Driver	72.00	R212P2	Pilot	3.50	
P8351	9MM Pilot	6.50	P243K Wheel 2.80			P422	Util. Driver	72.00	R212P5	Pilot	3.50	
P8374	9½MM Pilot	6.50	P244K Wheel 2.80			P422	Util. Driver	72.00	R212P15	Pilot	3.50	
P8393	10MM Pilot	6.50	P245K Wheel 3.50			P422	Util. Driver	72.00	R212P30	Pilot	3.50	
P8472	12MM Pilot	6.50	P246K Wheel 3.50			P422	Util. Driver	72.00	R213	Pilot	3.50	
P8820	Pilot (Ford Prefect)	7.00	P247K Wheel 3.50			P422	Util. Driver	72.00	R213M2	Pilot	3.50	
NOTE: Special pilots that can be made from standard size are 1-1/2 times price of the pilot used. Pilots up to 2" longer than standard size are two times standard price. Over two inches longer three times standard price.			P248K Wheel 3.50			P422	Util. Driver	72.00	R213M9	Pilot	3.50	
P135L	Wheel	1.10	P249K Wheel 3.50			P422	Util. Driver	72.00	R214	Pilot	3.50	
P136L	Wheel	1.30	P250K Wheel 4.10			P422	Util. Driver	72.00	R214M1	Pilot	3.50	
P137D	Wheel	1.10	P251K Wheel 4.10			P422	Util. Driver	72.00	R214M2	Pilot	3.50	
P137G	Wheel	1.10	P252K Wheel 4.10			P422	Util. Driver	72.00	R214M4	Pilot	3.50	
P137L	Wheel	1.30	P253K Wheel 4.10			P422	Util. Driver	72.00	R214P1	Pilot	3.50	
P138L	Wheel	1.70	P254K Wheel 4.10			P422	Util. Driver	72.00	R214P2	Pilot	3.50	
P176C	Dia. Screw 5/16-24 Thread for Waterbury-Hall Dressers	8.00	P255K Wheel 4.10			P422	Util. Driver	72.00	R215	Pilot	3.50	
P176D	Dia. Screw 5/16-18 Thread for K. O. Lee Dressers.	6.00	P256K Wheel 4.10			P422	Util. Driver	72.00	R216	Pilot	4.10	
P176E	Dia. Screw 3/8-24 Thread fits Many Popular Type Dressers.	6.00	P257K Wheel 4.10			P422	Util. Driver	72.00	R216M1	Pilot	4.10	
P178	Pilot	2.75	P258K Wheel 4.10			P422	Util. Driver	72.00	R216M2	Pilot	4.10	
P189	Brush	.20	P259K Wheel 4.10			P422	Util. Driver	72.00	R216P1	Pilot	4.10	
P190	Holder	7.80	P260K Wheel 4.10			P422	Util. Driver	72.00	R216P2	Pilot	4.10	
Exchange with Used Holder			P261K Wheel 4.40			P422	Util. Driver	72.00	R217	Pilot	4.10	
Used Holder			P262K Wheel 4.70			P422	Util. Driver	72.00	R217M1	Pilot	4.10	
GRINDING WHEELS FOR STELLITE			P263K Wheel 4.70			P422	Util. Driver	72.00	R217P1	Pilot	4.10	
P235S	Wheel	2.40	P264K Wheel 4.70			P422	Util. Driver	72.00	R218	Pilot	4.10	
P237S	Wheel	2.80	P265K Wheel 4.70			P422	Util. Driver	72.00	R219	Pilot	4.10	
P239S	Wheel	2.80	P266K Wheel 4.70			P422	Util. Driver	72.00	R220	Pilot	4.10	
P241S	Wheel	2.80	P267K Wheel 4.70			P422	Util. Driver	72.00	R220P1	Pilot	4.10	
P243S	Wheel	2.80	P268K Wheel 4.70			P422	Util. Driver	72.00	R222	Pilot	4.65	
P245S	Wheel	3.60	P269K Wheel 4.70			P422	Util. Driver	72.00	R222P1	Pilot	4.65	
P247S	Wheel	3.60	P270K Wheel 4.70			P422	Util. Driver	72.00	R222P2	Pilot	4.65	
P251S	Wheel	3.60	P271K Wheel 4.70			P422	Util. Driver	72.00	R224	Pilot	4.65	
P255S	Wheel	4.80	P272K Wheel 4.70			P422	Util. Driver	72.00	R226	Pilot	4.65	
P259S	Wheel	4.80	P273K Wheel 4.70			P422	Util. Driver	72.00	R227P6	Pilot	4.65	
P270	Holder	5.10	P274K Wheel 4.70			P422	Util. Driver	72.00	R233	Pilot	4.65	
P273	Holder	5.10	P275K Wheel 4.70			P422	Util. Driver	72.00	Reseater Millimeter Pilots, below, ea. 4.65			
P274	Holder	5.10	P276K Wheel 4.70			P422	Util. Driver	72.00	R208M14	(6MM)		
P274R	Hold Down	NC	P277K Wheel 4.70			P422	Util. Driver	72.00	R208P6	(6½MM)		
P275B	Band	3.15	P278K Wheel 4.70			P422	Util. Driver	72.00	R209M5	(7MM)		
P275C	Cuad	2.40	P279K Wheel 4.70			P422	Util. Driver	72.00	R209P15	(7½MM)		
P275E	Cuad	2.40	P280K Wheel 4.70			P422	Util. Driver	72.00	R210P3	(8MM)		
P277	Attachment	7.60	P281K Wheel 4.70			P422	Util. Driver	72.00	R211M9	(8½MM)		
P277C	Backing	.25	P282K Wheel 4.70			P422	Util. Driver	72.00	R211P10	(9MM)		
P277D	Backing	.30	P283K Wheel 4.70			P422	Util. Driver	72.00	R208M14 (6MM)			
P270	Holder	5.10	P284K Wheel 4.70			P422	Util. Driver	72.00	R208P6 (6½MM)			
P273	Holder	5.10	P285K Wheel 4.70			P422	Util. Driver	72.00	R209M5 (7MM)			
P274	Holder	5.10	P286K Wheel 4.70			P422	Util. Driver	72.00	R209P15 (7½MM)			
P274R	Hold Down	NC	P287K Wheel 4.70			P422	Util. Driver	72.00	R210P3 (8MM)			
P275B	Band	3.15	P288K Wheel 4.70			P422	Util. Driver	72.00	R211M9 (8½MM)			
P275C	Cuad	2.40	P289K Wheel 4.70			P422	Util. Driver	72.00	R211P10 (9MM)			
P275E	Cuad	2.40	P290K Wheel 4.70			P422	Util. Driver	72.00	R208M14 (6MM)			
P277	Attachment	7.60	P291K Wheel 4.70			P422	Util. Driver	72.00	R208P6 (6½MM)			
P277C	Backing	.25	P292K Wheel 4.70			P422	Util. Driver	72.00	R209M5 (7MM)			
P277D	Backing	.30	P293K Wheel 4.70			P422	Util. Driver	72.00	R209P15 (7½MM)			
P270	Holder	5.10	P294K Wheel 4.70			P422	Util. Driver	72.00	R210P3 (8MM)			
P273	Holder	5.10	P295K Wheel 4.70			P422	Util. Driver</					





